

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

TRANSACTION HOLDINGS LTD. L.L.C.)	
)	
Plaintiff,)	
)	
v.)	C.A. No. 06-43 (SLR)
)	
IYG HOLDING CO., 7-ELEVEN, INC.,)	JURY TRIAL DEMANDED
VCOM FINANCIAL SERVICES, INC.)	
)	
Defendants.)	

**DECLARATION OF DAVID E. MOORE IN SUPPORT OF DEFENDANTS IYG
HOLDING CO., 7-ELEVEN, INC. AND VCOM FINANCIAL SERVICES, INC.'s
MOTION FOR A STAY PENDING REEXAMINATION**

Your declarant, above named, having been duly sworn, states the following:

1. I am an associate in the law firm of Potter Anderson & Corroon LLP, attorneys for Defendants IYG Holding Co., 7-Eleven, Inc. and Vcom Financial Services, Inc. (collectively, "7-Eleven") in the above-titled action and am familiar with the facts thereof.

2. Plaintiff Transaction Holdings Ltd. LLC ("THL") filed its Complaint on January 23, 2006.

3. 7-Eleven filed its Answer, Defenses and Counterclaim on June 21, 2006.

4. 7-Eleven, in its Answer, Defenses and Counterclaim, alleges that the claims of the U.S. Patent No. 6,945,457 are invalid in light of prior art. (Answer, ¶¶ 20-21.)

5. On October 2, 2006, 7-Eleven's current lead counsel, Hogan & Hartson LLP, made an appearance in this action.

6. On November 7, 2006, non-party, NCR Corporation ("NCR") filed a petition for reexamination of U.S. Patent No. 6,945,457 with the U.S. Patent and Trademark Office ("PTO") in light of two pieces of prior art that were not before the PTO during the original prosecution of the asserted patent. A true and correct copy of that petition, with exhibits, is attached hereto as Exhibit 1. 7-Eleven is a customer of NCR with respect to the accused infringing product, and NCR has assumed the defense of this case. These facts are known to THL.

7. On November 28, 2006, THL's present litigation counsel, Fox Rothschild LLP, its second counsel herein, made its appearance in this action.

8. On December 13, 2006, 7-Eleven served its interrogatories and document requests upon THL. To date, THL has not served any interrogatories or document requests.

9. On December 14, 2006, the parties had their Scheduling Conference with the Court.

10. On January 4, 2007, less than two months after NCR's filing of the reexamination petition, the PTO granted its request for an *ex parte* reexamination. A true and correct copy of the PTO's *Ex Parte* Reexamination Communication is attached hereto as Exhibit 2.

11. On January 10, 2007, pursuant to Local Rule 7.1.1, 7-Eleven's counsel contacted THL's counsel to seek agreement regarding a stay of the litigation pending resolution of the reexamination proceeding. A true and correct copy of an email from

Eric Lobenfeld, Esq., 7-Eleven's counsel, to Gerard Norton, Esq., THL's counsel, dated January 10, 2007, is attached hereto as Exhibit 3.

12. On January 11, 2007, THL's counsel's indicated that THL would agree to a stay if 7-Eleven and NCR agreed to certain conditions. A true and correct copy of an email from Gerard Norton to Eric Lobenfeld, dated January 11, 2007, is attached hereto as Exhibit 4.

13. On January 12, 2007, 7-Eleven agreed to THL's request that it not have to respond to 7-Eleven's interrogatories and document requests while the parties were discussing the terms of a stipulated stay. A true and correct copy of an email from Eric Lobenfeld to Gerard Norton, dated January 12, 2007, is attached hereto as Exhibit 5.

14. After 7-Eleven suggested that it would be more prudent to dismiss this action without prejudice to save the parties' time and money, on January 24, 2007, THL notified that such proposal was not acceptable to it. Further, THL indicated that it was no longer consenting to stay this litigation. A true and correct copy of an email from Gerard Norton to Eric Lobenfeld, dated January 24, 2007, is attached hereto as Exhibit 6.

15. Attached hereto as Exhibit 7 is a true and correct copy of the PTO's "*Ex Parte* Reexamination Filing Data" from July 1, 1981 to September 30, 2006.

I declare under penalty of perjury that the foregoing is true and correct to the best of my personal knowledge.

Signed in Wilmington, Delaware, this 26th day of January, 2007.

774626 / 30232

/s/ David E. Moore
David E. Moore

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

CERTIFICATE OF SERVICE

I, David E. Moore, hereby certify that on January 26, 2007, the attached document was hand-delivered to the following persons and was electronically filed with the Clerk of the Court using CM/ECF which will send notification of such filing(s) to the following and the document is available for viewing and downloading from CM/ECF:

Gregory B. Williams
Fox Rothschild LLP
919 North Market Street, Suite 1300
P.O. Box 2323
Wilmington, DE 19899-2323

I hereby certify that on January 26, 2007, I have Electronically Mailed the documents to the following non-registered participants:

Gerard P. Norton
Jonathan R. Lagarenne
Fox Rothschild LLP
990 Lenox Drive
Lawrenceville, NJ 08648
gnorton@foxrothschild.com
jlagarenne@foxrothschild.com

By: /s/ David E. Moore
Richard L. Horwitz
David E. Moore
Potter Anderson & Corroon LLP
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1313 N. Market Street
Wilmington, DE 19899-0951
(302) 984-6000
rlhorwitz@potteranderson.com
dmoore@potteranderson.com

EXHIBIT 1

1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Reexamination of:	David M. Barcelou)
)
U.S. Patent No.:	6,945,457)
Issued:	September 20, 2005)
)
Formerly Appl. No.:	09/180,558)
Filed:	May 9, 1997)
)
Formerly Prov. Appl. No.:	60/017,533)
Filed:	May 10, 1996)

For: AUTOMATED TRANSACTION MACHINE

Mail Stop Ex Parte Reexam
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT
C.F.R. §1.97(b)

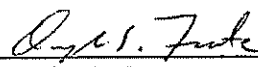
Sir:

In accordance with 37 CFR §1.56, §1.97 and §1.98 with regard to the above-named application, please find enclosed a copy of the reference(s) listed on the enclosed Form PTO/SB/08, entitled "Information Disclosure Statement by Applicant".

The form identifies either (i) references cited in a foreign search report with regard to an application corresponding to the named U.S. application, and/or (ii) other references.

If applicable, a copy of the foreign search report is also enclosed herewith.

Respectfully submitted,



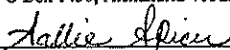
Douglas S. Foote
Reg. No. 31,013

NCR Corporation
Dayton, Ohio 45479-0001
Tel. No. (937) 445-3265
Fax No. (937) 445-6794

Certificate of mailing by "Express Mail"

"EXPRESS MAIL" Mailing Label Number Ev 682223119 US Date of Deposit November 7, 2006. I hereby certify that this paper or fee is Being deposited with the united States postal service "EXPRESS MAIL POST OFFICE TO ADDRESSEE" Service under 37 CFR 1.10 on the date indicated above and is addressed to the Commissioner for Patents, PO Box 1450, Alexandria VA 22213-1450.

Sallie Spicer
(Typed or Printed Name of Person Mailing Paper or Fee)



(Signature of Person mailing Paper or Fee)

PTO/SB/08B (09-06)

Approved for use through 03/31/2007. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT***(Use as many sheets as necessary)***Complete if Known**

Application Number	
Filing Date	
First Named Inventor	Barcelou
Art Unit	
Examiner Name	
Attorney Docket Number	

Sheet 1 of 1

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Subrizi et al., "The Virtual ATM" by ALEX SUBRIZI, et al. Bank Marketing (November, 1994) pages 17-20	
		Vizard, "Building The Information Superhighway" by FRANK VIZARD Popular Mechanics (January, 1994) pages 29-33	
		Wikipedia entry for "Information Superhighway"	

Examiner Signature	Date Considered
--------------------	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

2

PTO/SB/57 (04-05)

Approved for use through 04/30/2007. OMB 0651-0033

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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(Also referred to as FORM PTO-1465)

REQUEST FOR EX PARTE REEXAMINATION TRANSMITTAL FORM

Address to:
Mail Stop Ex Parte Reexam
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Attorney Docket No.:

Date:

1. ☒ This is a request for ex parte reexamination pursuant to 37 CFR 1.510 of patent number 6,945,457 issued 09/20/2005. The request is made by:

☐ patent owner.
☒ third party requester.
2. ☒ The name and address of the person requesting reexamination is:

Douglas S. Foote, on behalf of NCR Corporation

1700 S. Patterson Blvd.

Dayton, OH 45479
3. ☐ a. A check in the amount of \$ _____ is enclosed to cover the reexamination fee, 37 CFR 1.20(c)(1);
- ☒ b. The Director is hereby authorized to charge the fee as set forth in 37 CFR 1.20(c)(1) to Deposit Account No. 14-0225 (submit duplicative copy for fee processing); or
- ☐ c. Payment by credit card. Form PTO-2038 is attached.
4. ☒ Any refund should be made by ☐ check or ☒ credit to Deposit Account No. 14-0225. 37 CFR 1.26(c). If payment is made by credit card, refund must be to credit card account.
5. ☒ A copy of the patent to be reexamined having a double column format on one side of a separate paper is enclosed. 37 CFR 1.510(b)(4)
6. ☐ CD-ROM or CD-R in duplicate, Computer Program (Appendix) or large table

☐ Landscape Table on CD
7. ☐ Nucleotide and/or Amino Acid Sequence Submission
If applicable, items a. - c. are required.
 - a. ☐ Computer Readable Form (CRF)
 - b. Specification Sequence Listing on:
 - i. ☐ CD-ROM (2 copies) or CD-R (2 copies); or
 - ii. ☐ paper
 - c. ☐ Statements verifying identity of above copies
8. ☐ A copy of any disclaimer, certificate of correction or reexamination certificate issued in the patent is included.
9. ☒ Reexamination of claim(s) 1, 2, 3, 5, 9, 10 and 14 is requested.
10. ☒ A copy of every patent or printed publication relied upon is submitted herewith including a listing thereof on Form PTO/SB/08, PTO-1449, or equivalent.
11. ☐ An English language translation of all necessary and pertinent non-English language patents and/or printed publications is included.

[Page 1 of 2]

This collection of information is required by 37 CFR 1.510. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop Ex Parte Reexam, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/SB/57 (04-05)

Approved for use through 04/30/2007. OMB 0651-0033

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

12. ☒ The attached detailed request includes at least the following items:

- a. A statement identifying each substantial new question of patentability based on prior patents and printed publications. 37 CFR 1.510(b)(1)
- b. An identification of every claim for which reexamination is requested, and a detailed explanation of the pertinency and manner of applying the cited art to every claim for which reexamination is requested. 37 CFR 1.510(b)(2)

13. ☐ A proposed amendment is included (only where the patent owner is the requester). 37 CFR 1.510(e)14. ☒ a. It is certified that a copy of this request (if filed by other than the patent owner) has been served in its entirety on the patent owner as provided in 37 CFR 1.33(c).

The name and address of the party served and the date of service are:

Kevin M. Kocum, Patent AttorneyLerner, David, Littenberg, Krumholz & Mentlik, LLP600 South Avenue West, Westfield, NJ 07090-1497

Date of Service: _____; or

☐ b. A duplicate copy is enclosed since service on patent owner was not possible.

15. Correspondence Address: Direct all communication about the reexamination to:

☒ The address associated with Customer Number:29994

OR

☐ Firm or
Individual Name

Address

City

State

Zip

Country

Telephone

Email

16. ☒ The patent is currently the subject of the following concurrent proceeding(s):

- ☐ a. Copending reissue Application No. _____
- ☐ b. Copending reexamination Control No. _____
- ☐ c. Copending Interference No. _____
- ☒ d. Copending litigation styled: _____

Transaction Holding Ltd. L.L.C. v. IYG Holding Co. et al. C.A.No. 06-43 (SLR), Federal District Court for the District of Delaware

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

Douglas S. Foote

Authorized Signature

November 7, 2006

Date

Douglas S. Foote

Typed/Printed Name

31013

Registration No.

☐ For Patent Owner Requester
☒ For Third Party Requester

3

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Reexamination of:	David M. Barcelou)
)
U.S. Patent No.:	6,945,457)
Issued:	September 20, 2005)
)
Formerly Appl. No.:	09/180,558)
Filed:	May 9, 1997)
)
Formerly Prov. Appl. No.:	60/017,533)
Filed:	May 10, 1996)
)
For:	AUTOMATED TRANSACTION MACHINE)

REQUEST FOR *EX PARTE* REEXAMINATION UNDER 37 C.F.R. §1.510

Mail Stop *Ex Parte* Reexam
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, VA 22313-1450

This is a request for ex parte reexamination pursuant to 37 CFR 1.510 of U.S. Letters Patent No. 6,945,457 issued September 20, 2005 (the "'457" Patent). The request is made by a third party requester whose name and address is set forth below.

Identification Of Claims For Which Reexamination Is Requested

Requester hereby requests that claims 1, 2, 3, 5, 9, 10, and 14 of the '457 Patent be reexamined in view of the following prior art references:

Subrizi et al., "*The Virtual ATM*" by Alex Subrizi, et al.
 Bank Marketing (November, 1994) pages 17-20

Mos et al., U.S. Patent No. 5,397,886

Vizard, "*Building The Information Superhighway*" by Frank Vizard
 Popular Mechanics (January, 1994) pages 29-33.

CERTIFICATE OF MAILING BY "EXPRESS MAIL"

"EXPRESS MAIL" Mailing Label Number EV68322311945 Date of Deposit 11-7-2006. I hereby certify that this paper or fee is being deposited with the United States Postal Service "EXPRESS MAIL POST OFFICE TO ADDRESSEE" Service under 37 CFR 1.10 on the date indicated above and is addressed to the Commissioner for Patents, PO Box 1450, Alexandria VA 22313-1450.

Sallie Spicer
 (Typed or Printed Name of Person Mailing Paper or Fee)

Sallie Spicer
 (Signature of Person Mailing Paper or Fee)

Wikipedia entry for "Information Superhighway"

Reexamination of claims 1, 5, 9 and 14 is requested in view of Subrizi et al.

Reexamination of claims 2, 3 and 10 is requested in view of the combination of Subrizi et al and Mos et al.

Statement Pointing Out Each Substantial New Question Of Patentability

Subrizi et al. and Mos et al. were not of record during the prosecution of the '457 Patent. Subrizi et al., in the pictures at pages 18 and 19 and in the description at page 20, discloses a method and apparatus for providing retail transactions such as credit card services, utility bill payment and financial services on an automated teller machine (ATM) over the information superhighway. Vizard discloses that in 1994 the term "information superhighway" was another name for the Internet, as does the Wikipedia entry. Thus, Subrizi et al. discloses all of the limitations of claims 1, 5, 9 and 14 of the '457 Patent.

While Subrizi et al. discloses the use of a card reader in the ATM, it does not disclose a card reader/encoder. Mos et al. teaches at Column 1, lines 11-18 to use magnetic stripe and/or smart card reader/encoders in ATMs and discloses that this was the state of the art before the date of invention of the '457 Patent. Thus, Subrizi et al. in combination with Mos et al. disclose all of the limitations of claims 2, 3 and 10 of the '457 Patent.

Detailed Explanation Under 37 CFR 1.510(b)

1. Claim 1 of U.S. Patent No. 6,945,457 is unpatentable under 35 U.S.C. §102(b) as being anticipated by Subrizi et al.

6,945,457	Subrizi, et al.
Claim 1. Integrated banking and transaction apparatus for use by a consumer, comprising:	Subrizi et al. describes the development of a "SmartCard ATM," which is an integrated banking and transaction apparatus for use by a consumer. (See Exhibit A attached which is a marked-up copy of the photograph at page 18 of Subrizi et al). In fact, a specific objective of the SmartCard ATM development <i>"was to enhance the utility of ATMs (by adding functions that weren't strictly related to banking) while simplifying and streamlining their operation."</i> (Page 18, column 1, lines 22-25)(emphasis added).
an automated teller machine; and	Subrizi et al. teaches that the SmartCard ATM is an "automated teller machine." For example, the Figure at the top of page 18 shows the graphical user interface (GUI) of the ATM with "buttons" for typical automated teller machine functions such as withdrawing various cash amounts using the provided cash dispenser. (See Exhibit A)
means for providing a retail transaction to the consumer through an Internet interface to the automated teller machine.	<p>Subrizi et al. teaches that the SmartCard ATM is connected to the information superhighway (aka Internet) and has a graphic user interface (GUI) to allow a customer, in one window, to navigate at a retailer website and, in another window, to use it as an ATM. (See Exhibit A).</p> <p>Regarding "retail transactions," Subrizi et al. describes and shows "objects" on the user screen (banking space) that are not <i>"limited to bank accounts, but could include accounts with utility companies, credit card companies, and third-party brokerage houses."</i> (Page 20, column 1, lines 31-34) (emphasis added). The Figure at the top of page 18 shows icons for two such objects, namely, a utility company (Ohio Bell) and a credit card company (Visa Gold). (Exhibit A) The '457 Patent identifies "banking services", "utility services" and "debit/credit card services" as retail transactions in claim 14.</p> <p>Regarding the GUI and the Internet connection, Subrizi et al. explains that the "banking space" that is described and shown can be used on many different devices, and that all such devices <i>including the ATM</i> would simply be different windows in the graphic user interface connected into the "information superhighway," the then-current term for the "Internet."</p> <p>Subrizi et al. states,</p> <p><i>"The banking space metaphor is powerful enough to migrate to</i></p>

	<p>other hardware, including TVs, desktop computers, and hand-held personal digital assistants such as Apple's Newton. While a customer would not be able to withdraw cash from these other devices, the idea of a branded virtual banking space that can be accessed from a variety of information 'ports' <u>recasts the traditional ATM as just one public-access window into a ubiquitous financial network, an endless lattice of financial and other services that will eventually be part of the information superhighway</u>". (emphasis added) (Page 20, column 1, line 37 – column 2, line 5) (Referring to the machine shown in Exhibit A)</p> <p>In the 1990's, "information superhighway" was a term used to describe the Internet. See for example, "Building the Information Superhighway" from Popular Mechanics, January 1994 (Exhibit E) which states, "The data highway model everyone is looking at is a confederation of computer networks called the Internet," (Page 32, column 1), and the definition of "Information Superhighway" from Wikipedia (Exhibit F).</p>
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2. Claim 2 of U.S. Patent No. 6,945,457 is unpatentable under 35 U.S.C. §103 as being obvious over Subrizi et al. in view of Mos et al.

6,945,457	Subrizi, et al.
<p>Claim 2. The integrated banking and transaction apparatus according to claim 1, further comprising a smartcard reader/encoder.</p>	<p>Subrizi et al. teaches that the SmartCard ATM utilizes smartcards and has a smartcard reader.</p> <p>Subrizi et al. states,</p> <p><i>"The <u>card reader, glowing with colored light and molded to receive the SmartCard</u>"</i> (emphasis added) (Page 19, paragraph bridging columns 1 and 2) (emphasis added)</p> <p>Mos. et al. teaches that, <i>"Automated teller machines (ATMs), gasoline pump stations and other apparatus designed to operate with magnetic stripe and/or <u>micro chip cards utilize card handling mechanisms in order to perform data read/write operations. The majority of motorized card reader/encoders available today are similar in design and appear to be based on an original ATM design introduced in the late 1970's.</u>"</i> (emphasis added) (Col. 1, lines 11-18).</p> <p>It would have been obvious to replace the smartcard reader of Subrizi et al. with a smartcard reader/encoder as disclosed in Mos et al., since Mos et al. teaches that such reader/encoders were available and had been known to be used in ATMs for many years.</p>

3. Claim 3 of U.S. Patent No. 6,945,457 is unpatentable under 35 U.S.C. §103 as being obvious over Subrizi et al. in view of Mos et al.

6,945,457	Subrizi, et al.
<p>Claim 3. The integrated banking and transaction apparatus according to claim 1, further comprising a magnetic stripe card reader/encoder.</p>	<p>Subrizi et al. teaches that the SmartCard ATM utilizes smartcards and has a smartcard reader. (See Exhibit A)</p> <p>Subrizi et al. states,</p> <p><i>"The <u>card reader</u>, glowing with colored light and molded to receive the <u>SmartCard</u>"</i> (emphasis added) (Page 19, paragraph bridging columns 1 and 2)</p> <p>Mos. et al. teaches that, <i>"Automated teller machines (ATMs), gasoline pump stations and other apparatus designed to operate with <u>magnetic stripe</u> and/or <u>micro chip cards</u> utilize <u>card handling mechanisms</u> in order to perform data read/write operations. The majority of motorized card reader/encoders available today are similar in design and appear to be based on an original ATM design introduced in the late 1970's."</i> (emphasis added) (Col. 1, lines 11-18.)</p> <p>It would have been obvious to replace the smartcard reader of Subrizi et al. with a magnetic stripe reader/encoder as disclosed in Mos et al., since Mos et al. teaches that such reader/encoders were available and had been known to be used in ATMs for many years.</p>

4. Claim 5 of U.S. Patent No. 6,945,457 is unpatentable under 35 U.S.C. §102(b) as being anticipated by Subrizi et al.

6,945,457	Subrizi, et al.
<p>Claim 5. The integrated banking and transaction apparatus according to claim 1, wherein said automated teller machine is capable of selectively dispensing currency to the consumer.</p>	<p>Subrizi et al. teaches that the SmartCard ATM is capable of selectively dispensing currency to the consumer. The Figure at the top of page 18 shows selected currency amounts of \$150, \$100, \$50, and Other. (Exhibit A) In addition, Subrizi et al. states, <i>"Customers have the option of configuring the contents of their banking space, including the controls and information linked to the objects within it (that is, preset <u>cash withdrawal amounts</u>, automatic display of account balance, and others)."</i> (emphasis added) (Page 20, column 1, lines 27-31).</p>

5. Claim 9 of U.S. Patent No. 6,945,457 is unpatentable under 35 U.S.C. §102(b) as being anticipated by Subrizi et al.

6,945,457	Subrizi, et al.
<p>Claim 9. A method of providing banking services and transaction capability to a consumer in a single automated transaction machine, comprising the steps of:</p>	<p>Subrizi et al. describes the development of a "SmartCard ATM," which is a single automated transaction machine that provides banking services and transaction capability to a consumer. In fact, a specific objective of the SmartCard development <i>"was to enhance the utility of ATMs (by adding functions that weren't strictly related to banking) while simplifying and streamlining their operation."</i> (Page 18, column 1, lines 22-25). For example, banking services shown in the Figure on the top of page 18 include, "deposit," "transfer," and "withdraw." Other examples of transaction capability shown in the Figure include "Ohio Bell" and "Visa Gold." (See Exhibit A)</p>
<p>providing automated teller machine access to the consumer via the automated transaction machine; and</p>	<p>Subrizi et al. teaches that automated teller machine access is provided to the consumer via the SmartCard ATM. For example, the Figure at the top of page 18 shows the graphical user interface (GUI) of the ATM with "buttons" for typical automated teller machine functions such as withdrawing various cash amounts using the provided cash dispenser. (See Exhibit A)</p>
<p>providing Internet access to the consumer via the automated transaction machine and realizing a retail transaction.</p>	<p>Subrizi et al. teaches that the SmartCard ATM is connected to the information superhighway (aka Internet) and has a graphic user interface (GUI) to allow a customer, in one window, to navigate at a retailer website and, in another window, to use it as an ATM. (See Exhibit A).</p> <p>Regarding "retail transactions," Subrizi et al. describes and shows "objects" on the user screen (banking space) that are not <i>"limited to bank accounts, but could include accounts with utility companies, credit card companies, and third-party brokerage houses."</i> (Page 20, column 1, lines 31-34). The Figure at the top of page 18 shows icons for two such objects, namely, a utility company (Ohio Bell) and a credit card company (Visa Gold). (Exhibit A) The '457 Patent identifies "banking services," "ut ility services," and "debit/credit card services" as retail transactions in claim 14.</p> <p>Regarding the GUI and the Internet connection, Subrizi et al. explains that the "banking space" that is described and shown can be used on many different devices, and that all such devices <i>including the ATM</i> would simply be different windows in the graphic user interface connected into a the "information superhighway," the then-current term for the "Internet."</p> <p>Subrizi et al. states,</p> <p><i>"The banking space metaphor is powerful enough to migrate to other hardware, including TVs, desktop computers, and hand-</i></p>

	<p><i>held personal digital assistants such as Apple's Newton. While a customer would not be able to withdraw cash from these other devices, the idea of a branded virtual banking space that can be accessed from a variety of information "ports" recasts the traditional ATM as just one public-access window into a ubiquitous financial network, an endless lattice of financial and other services that will eventually be part of the information superhighway".</i> (emphasis added) (Page 20, column 1, line 37 – column 2, line 5) (Referring to the machine shown in Exhibit A)</p> <p>In the 1990's, "information superhighway" was a term used to describe the Internet. See for example, "Building the Information Superhighway" from Popular Mechanics, January 1994 (Exhibit E) which states, "<i>The data highway model everyone is looking at is a confederation of computer networks called the Internet,</i>" (Page 32, column 1) and the definition of "Information Superhighway" from Wikipedia (Exhibit F).</p>
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6. Claim 10 of U.S. Patent No. 6,945,457 is unpatentable under 35 U.S.C. §103 as being obvious over Subrizi et al. in view of Mos et al.

6,945,457	Subrizi, et al.
<p>Claim 10. The method of providing banking services and transaction capability according to claim 9, further comprising the step of providing a smartcard/magnetic stripe interface to the consumer via the automated transaction machine.</p>	<p>Subrizi et al. teaches that the SmartCard ATM utilizes smartcards and has a smartcard reader. (See Exhibit A)</p> <p>Subrizi et al. states,</p> <p><i>"The <u>card reader</u>, glowing with colored light and molded to receive the <u>SmartCard</u>"</i> (emphasis added) (Page 19, paragraph bridging columns 1 and 2)</p> <p>Mos. et al. teaches that, "<i>Automated teller machines (ATMs), gasoline pump stations and other apparatus designed to operate with <u>magnetic stripe and/or micro chip cards</u> utilize card handling mechanisms in order to perform data read/write operations. The majority of motorized card reader/encoders available today are similar in design and appear to be based on an original ATM design introduced in the late 1970's.</i>" (emphasis added) (Col. 1, lines 11-18)</p> <p>It would have been obvious to replace the smartcard reader of Subrizi et al. with a smartcard/magnetic stripe reader/encoder as disclosed in Mos et al., since Mos et al. teaches that such reader/encoders were available and had been known to be used in ATMs for many years.</p>

7. Claim 14 of U.S. Patent No. 6,945,457 is unpatentable under 35 U.S.C. §102(b) as being anticipated by Subrizi et al.

6,945,457	Subrizi, et al.
<p>Claim 14. 14. The method of providing banking services and transaction capability according to claim 9, wherein the consumer can realize a transaction for goods or services, the goods or services being selected from the group consisting of banking services, ... utility services, ... brokerage services, ... credit/debit card services,</p>	<p>Subrizi et al. describes the "SmartCard ATM," which is a single automated transaction machine that provides banking services and transaction capability to a consumer. In fact, a specific objective of the SmartCard development <i>"was to enhance the utility of ATMs (by adding functions that weren't strictly related to banking) while simplifying and streamlining their operation."</i> (Page 18, column 1, lines 22-25). For example, i) banking services include, "deposit," "transfer," and "withdraw" (Exhibit A); ii) utility services include "Ohio Bell" (Exhibit A); iii) brokerage services include "third-party brokerage houses" (Page 20, line 34); and iv) credit/debit card services include "Visa Gold" (Exhibit A)</p>

In accordance with 37 C.F.R. §1.510(b)(4), a copy of U.S. Patent No. 6,945,457 is attached as Exhibit B.

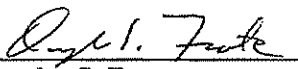
In accordance with 37 C.F.R. §1.510(b)(3), the prior art reference to Subrizi et al. is listed on the attached PTO Form 1449, and Requester has attached a copy of Subrizi et al. as Exhibit C. Similarly, the prior art patent to Mos et al. is listed on the attached PTO Form 1449, and Requester has attached a copy of Mos et al. as Exhibit D. A copy of Vizard is attached as Exhibit E and the Wikipedia entry is attached as Exhibit F and they are listed on the attached PTO Form 1449.

In accordance with M.P.E.P. §2219, attached as Exhibit G is a copy of the complaint in pending civil action, *Transaction Holding Ltd. L.L.C. v. IYG Holding Co. et al.* C.A. No. 06-43 (SLR), Federal District Court for the District of Delaware.

Conclusion

In view of the foregoing, reexamination of claims 1, 2, 3, 5, 9, 10 and 14 of U.S. Patent No. 6,945,457 is requested.

Respectfully submitted,

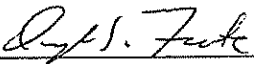

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CERTIFICATE OF SERVICE

The undersigned, an attorney, hereby certifies that a true and correct copy of the above and foregoing has been served upon the patent owner by first class mail, postage prepaid, on this day, Nov 7, 2006, addressed to:

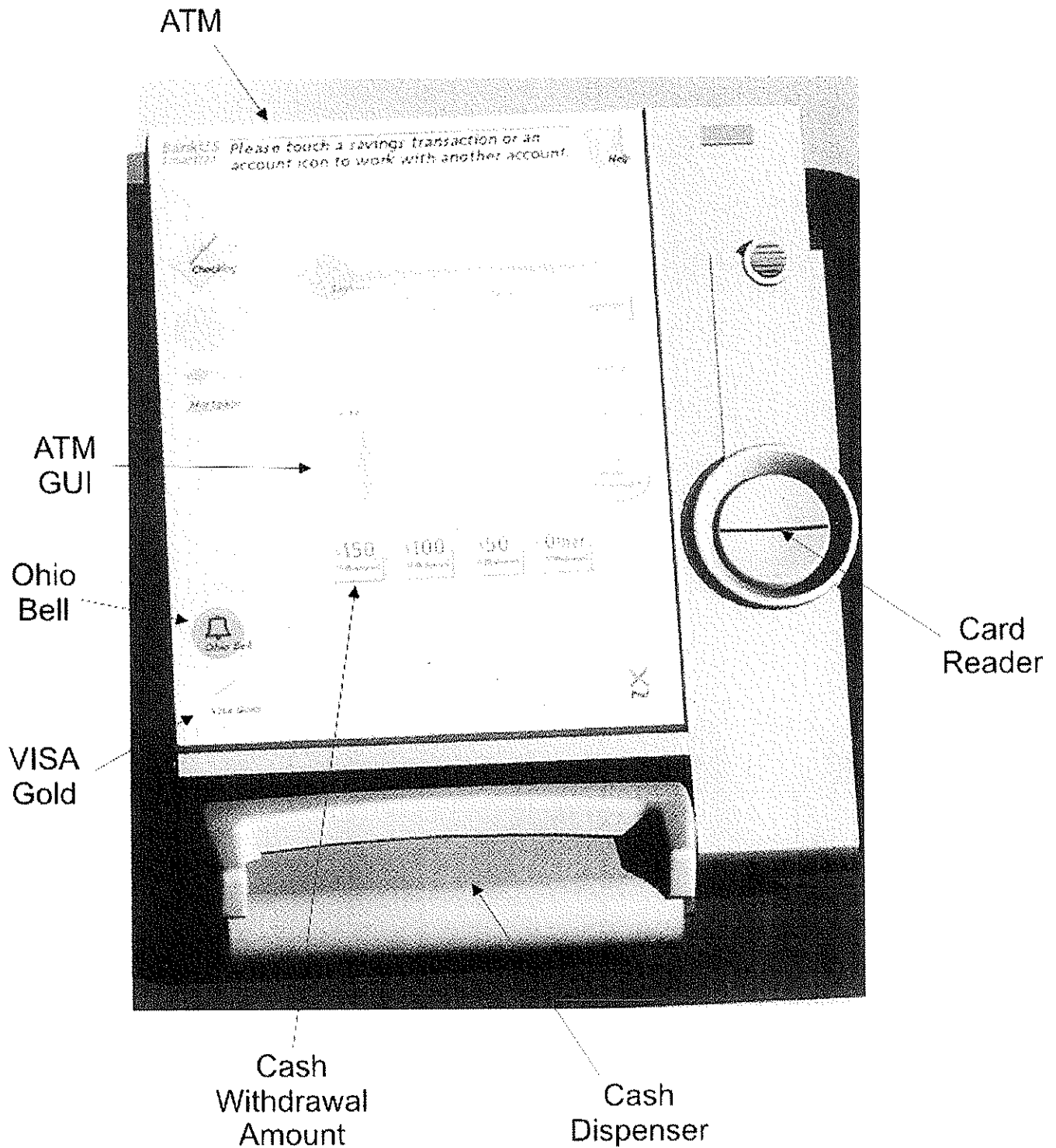
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A

Exhibit A



B



US006945457B1

(12) **United States Patent**
Barcelou

(10) Patent No.: **US 6,945,457 B1**
 (45) Date of Patent: **Sep. 20, 2005**

(54) **AUTOMATED TRANSACTION MACHINE**

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(73) Assignee: **Transaction Holdings Ltd. L.L.C.**, Wilmington, DE (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/180,558**

(22) PCT Filed: **May 9, 1997**

(86) PCT No.: **PCT/US97/08089**

§ 371 (c)(1),
 (2), (4) Date: **Nov. 6, 1998**

(87) PCT Pub. No.: **WO97/45796**

PCT Pub. Date: **Dec. 4, 1997**

Related U.S. Application Data

(60) Provisional application No. 60/017,533, filed on May 10, 1996.

(51) Int. Cl.⁷ **G06K 5/00**

(52) U.S. Cl. **235/380**

(58) Field of Search **235/487, 380, 235/379; 283/72, 74, 75, 100, 105; 705/39, 23, 43**

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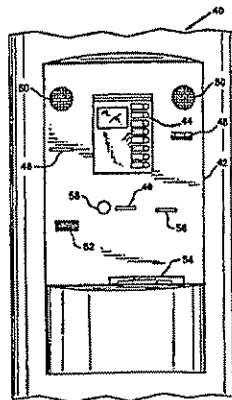
(Continued)

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(57) **ABSTRACT**

An automated retail terminal in which a plurality of goods and/or services are provided in an integrated system (40). The integrated system (40) generally avoids duplicating hardware or functions in the course of delivering the goods or services offered, so for example in a combination ATM and Internet kiosk the same credit card or smart card reader (48) is used for both the ATM and the Internet kiosk functions, the same control screen (42, 44) activates the ATM functions and the Internet functions, and etc.

37 Claims, 9 Drawing Sheets

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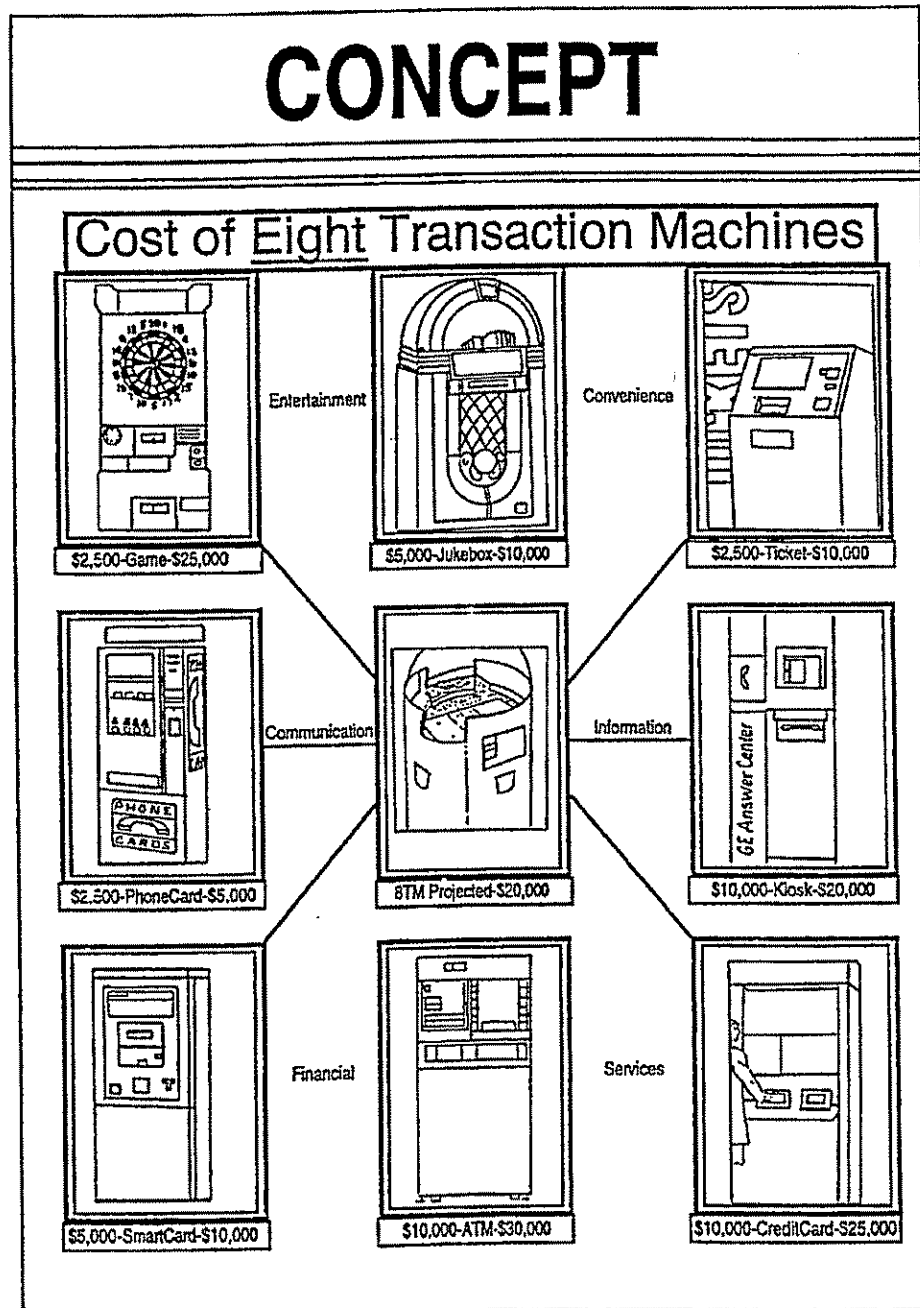


FIG. 1

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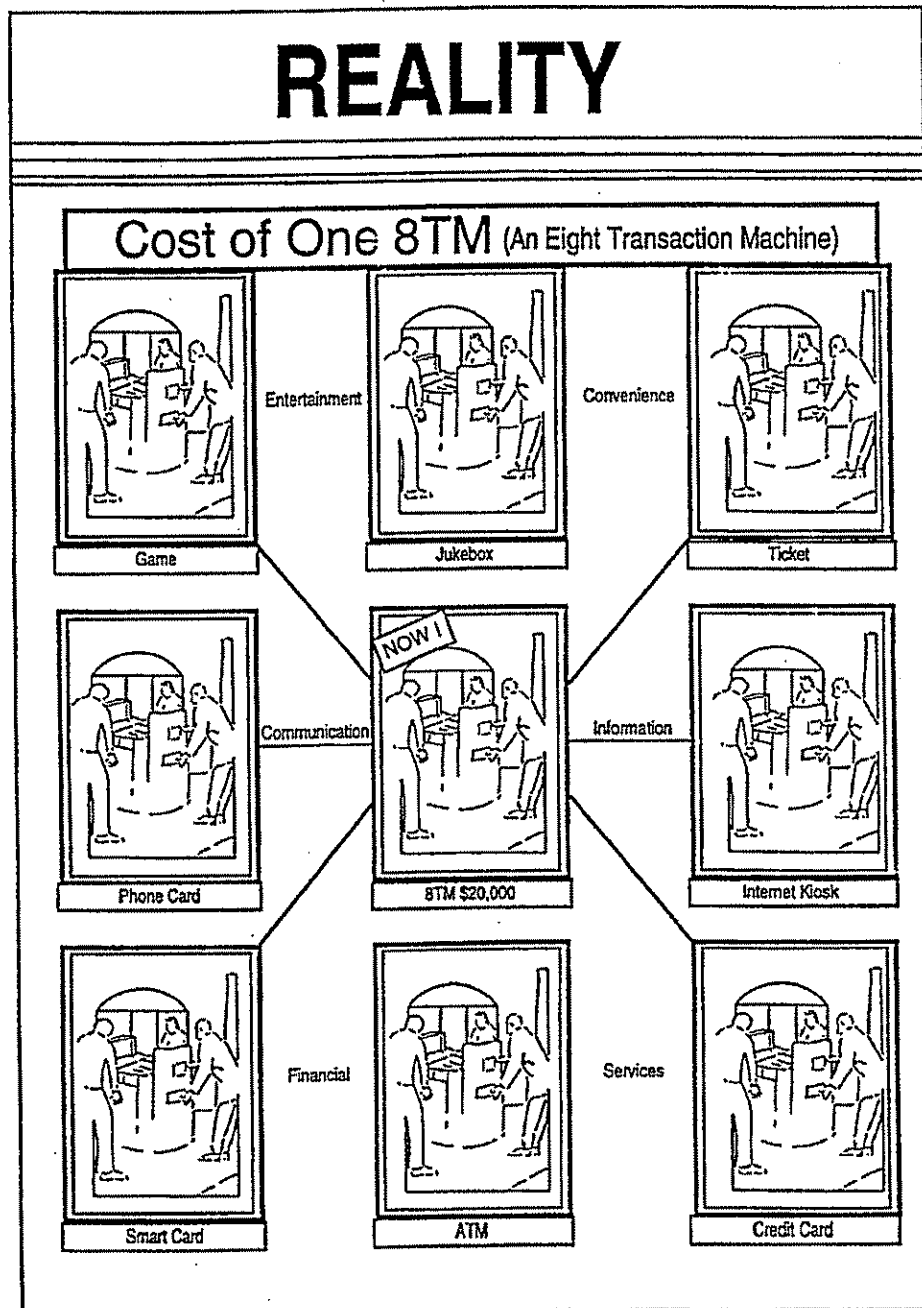


FIG. 2

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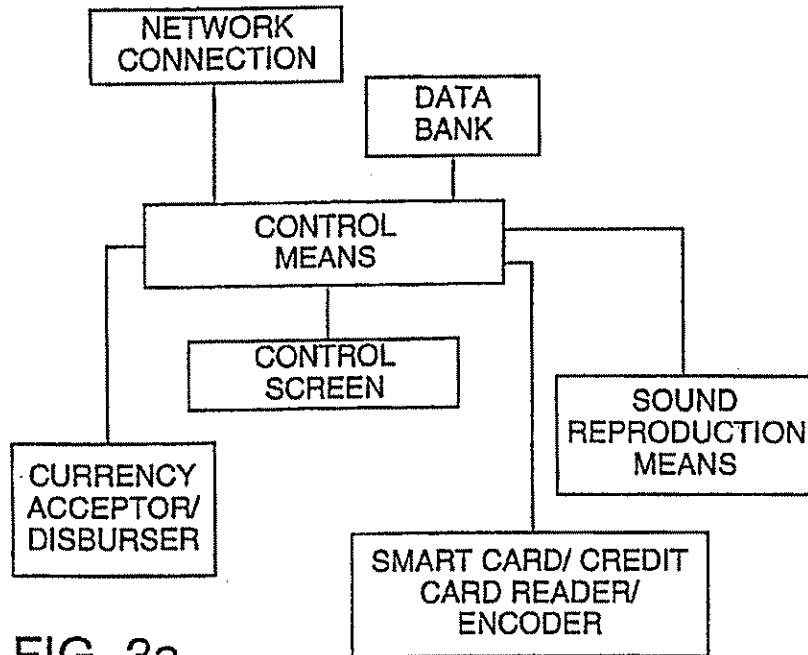


FIG. 3a

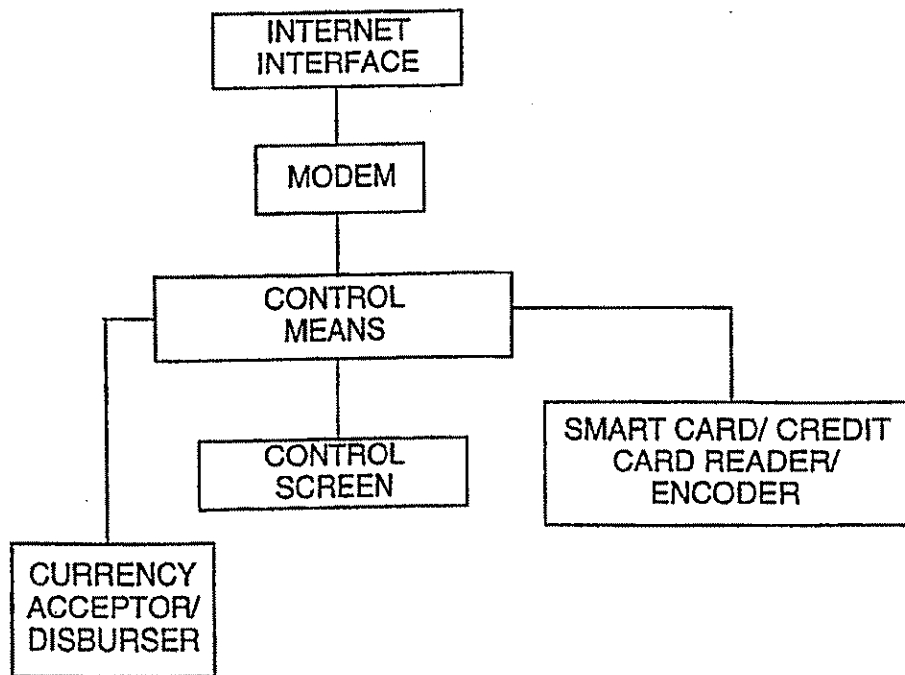


FIG. 3b

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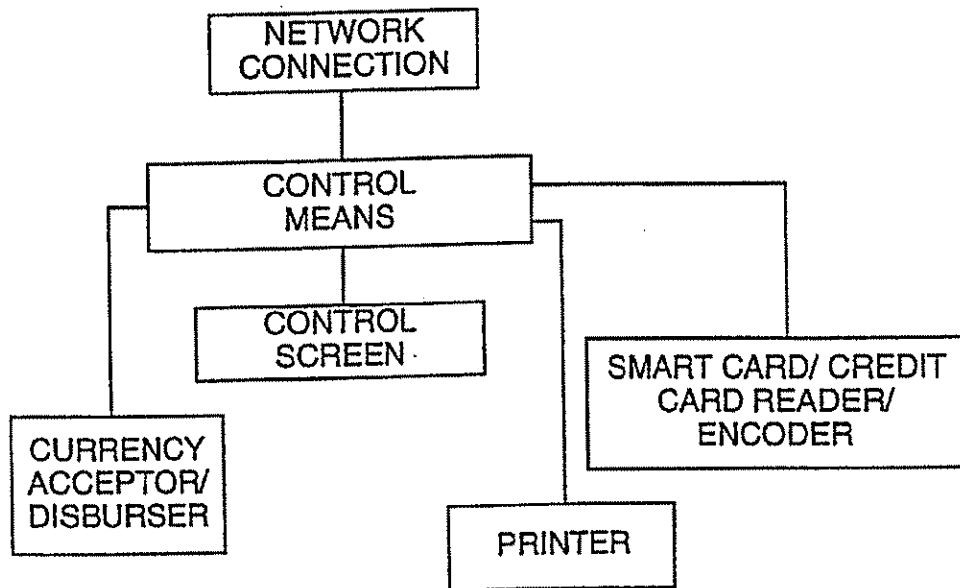


FIG. 3c

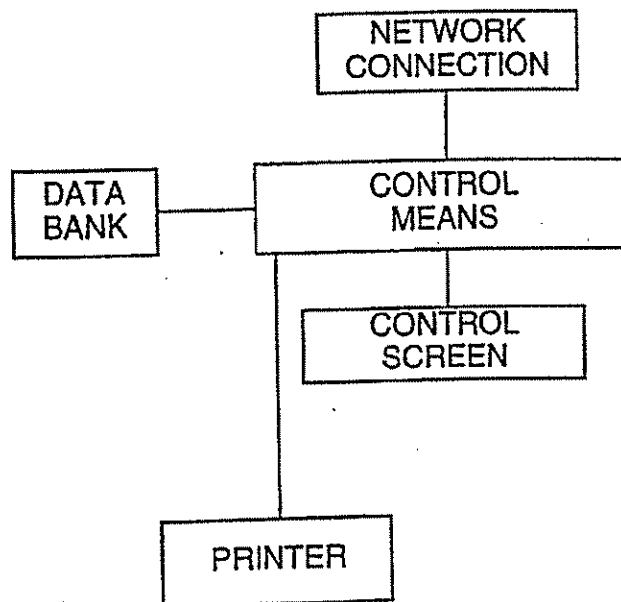


FIG. 3d

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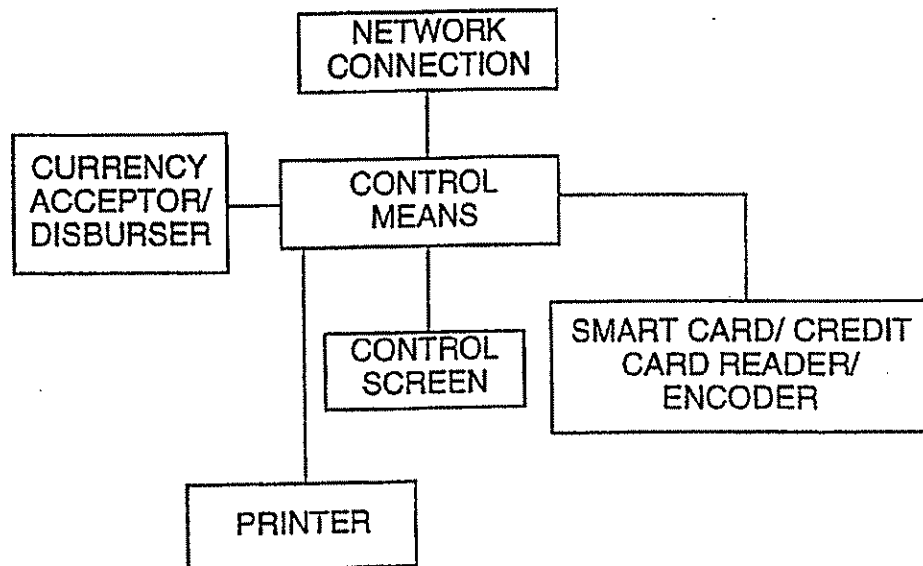


FIG. 3e

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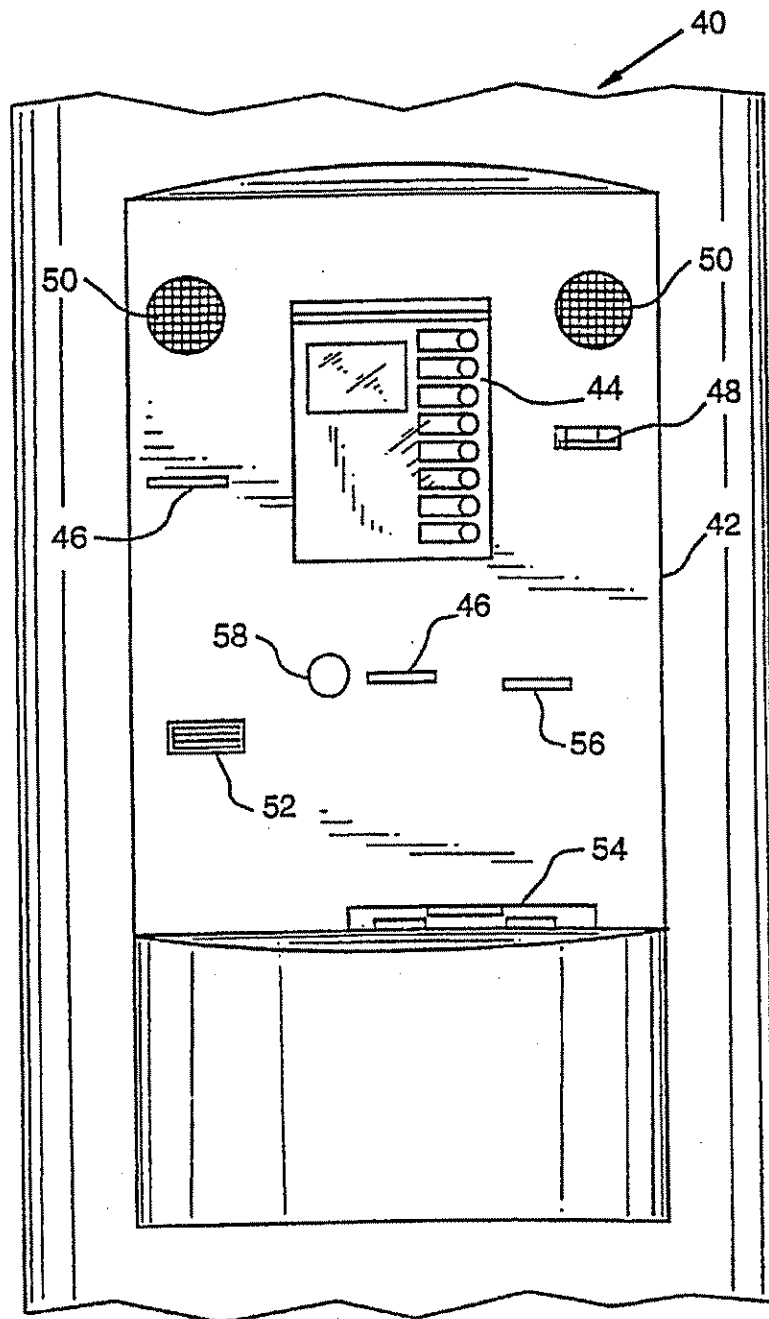


FIG. 4

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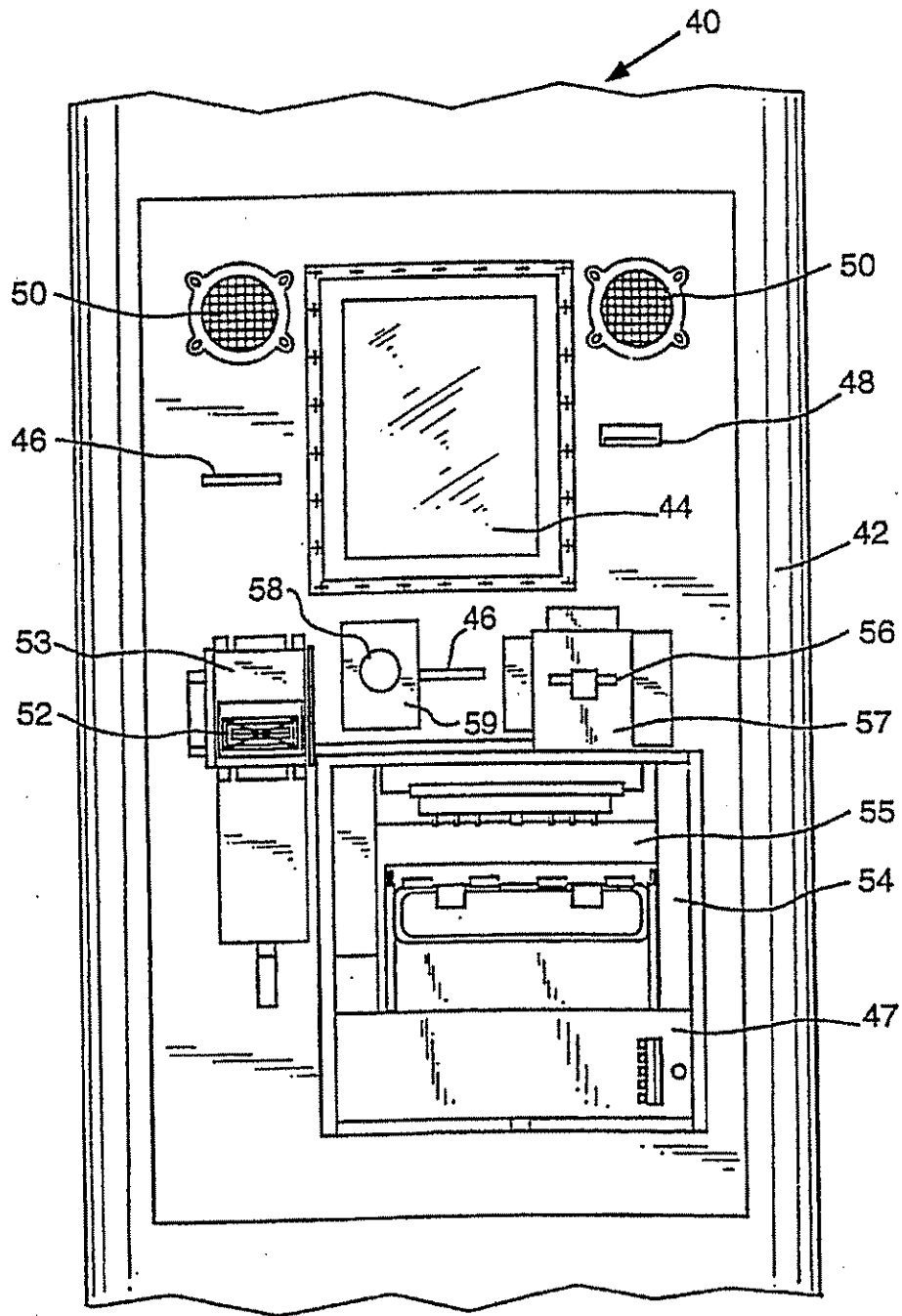


FIG. 5

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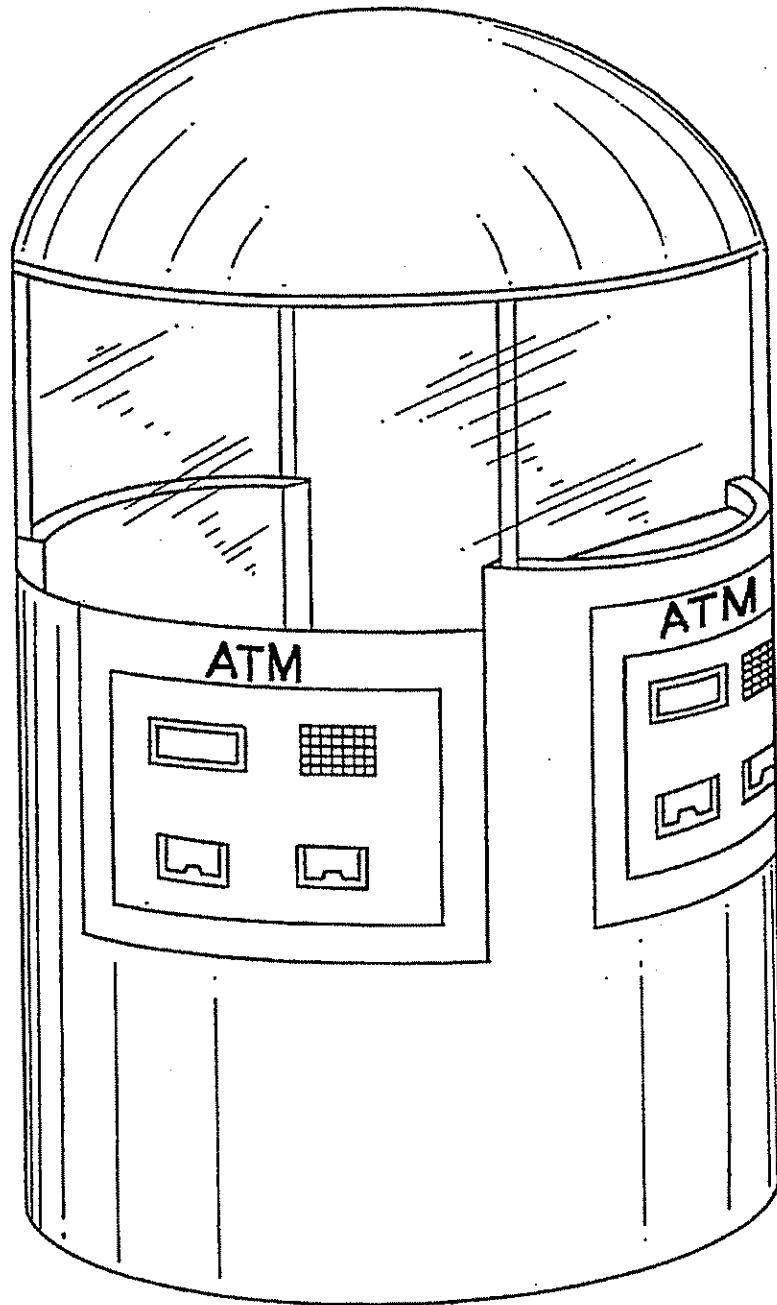


FIG. 6

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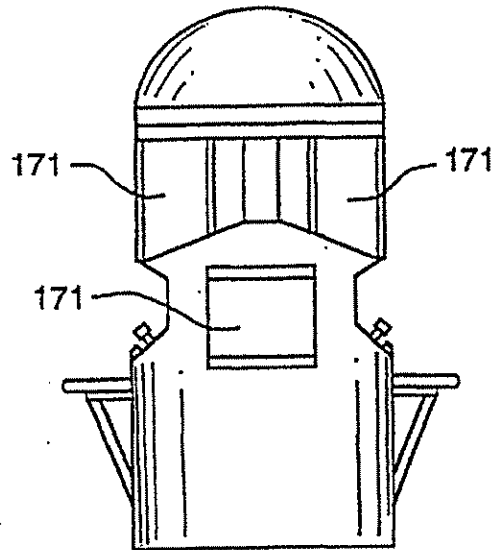


FIG. 7a

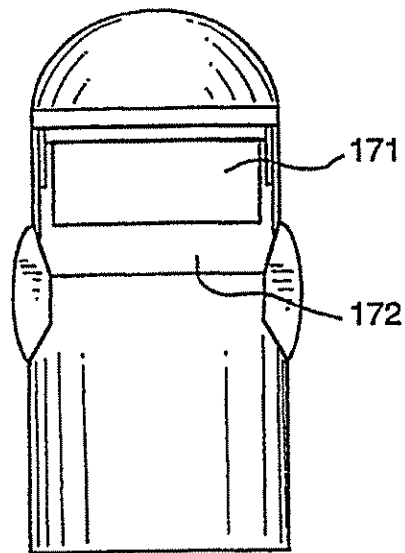


FIG. 7b

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AUTOMATED TRANSACTION MACHINE

This application claims the benefit of provisional application No. 60/017,533 filed May 10, 1996.

FIELD OF THE INVENTION

The invention relates to retail terminals for automated transactions and a unique system design therefor.

BACKGROUND OF THE INVENTION

For decades, retail sales and services have been automated to greater or lesser degrees. Historically in many European countries, shopkeepers of bakeries and other purveyors have long provided simple vending machines to dispense their products at their street entrances after business hours. More ambitiously automated restaurants are already legendary in the history of the United States. Other and more recent entrants in the automated retail sales and service industries include automated teller machines (ATMs), custom greeting card kiosks, automated lottery machines and other home and commercial business terminals including various Internet services available via personal computer.

Retail terminal technology generally, however, has been pervaded by a fundamental flaw which itself has gone completely unrecognized. This flaw becomes apparent when one considers the piecemeal character of retail terminals of all types in the applicable prior art. Without any known exception, automated retail functions are provided only to address particular and narrow needs. An ATM may dispense postage stamps, but treats the stamp sheets virtually as an alternate currency in a limited menu of deposit and cash access services. Lottery machines dispense lottery tickets; insurance machines dispense insurance policies; and fancy pay telephones and the most advanced home computers function primarily as old-fashioned credit card order lines for the various products and services available online. In short, even in the most recent instances the only advantage in retail automation has been the same as it has been for many years—the elimination of the human attendant.

A need thus remains for an innovation in the area of automated retail goods and services in which an automated transaction machine does more than merely provide existing goods and services in a simple automated way.

SUMMARY OF THE INVENTION

In order to meet this need, the present invention is an automated retail terminal in which a plurality of goods and/or services is provided in an integrated system. The integrated system generally avoids duplicating hardware or functions in the course of delivering the goods or services offered, so for-example in a combination ATM and Internet kiosk the same credit card or smart card reader is used for both the ATM and the Internet kiosk functions, the same control screen activates the ATM functions and the Internet functions, and etc. The overall importance—and the details concerning—the integrated system aspect of the present automated transaction terminal will become more apparent in the foregoing description.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a schematic entitled "CONCEPT" which illustrates the various existing goods and services machines which can be combined in accordance with the invention;

FIG. 2 is a schematic entitled "REALITY" which illustrates the various existing goods and services machines which can be combined in accordance with the present invention;

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FIGS. 3a–3e are schematics which show various combinations of integrated systems according to the present invention;

FIG. 4 is a side elevational view of a control panel according to a preferred embodiment of the invention;

FIG. 5 is a side elevational view of the same mechanics as shown in FIG. 4 but with the control panel removed;

FIG. 6 is a perspective view of a further embodiment of the invention which combines multiple transaction stations in a kiosk, which might house any retail function, such as automobile service and refueling or fast food dispensing or vending; and

FIGS. 7a and 7b are side elevational views of a yet further embodiment of the invention.

DETAILED DESCRIPTION OF THE INVENTION

The present invention is an automated transaction machine comprising an automated retail terminal which provides a plurality of goods and/or services from an integrated and automated system. Two or more goods and/or services are provided not only in combinations heretofore unavailable, but in an integrated system design in which duplication of effort (and hardware) is largely or completely eliminated.

Referring now to FIGS. 1 and 2, a plurality of machines is shown which can be combined in a single integrated system according to the present invention. However, not all the machines shown need be combined. The invention can be simply the combination of a telephone and a juke box, for example, with the hardware and functions of credit or smart card reading (or encoding), computer hardware and software and audio sound production and reproduction being shared. However, the preferred embodiments of the present invention include an integrated but otherwise traditional ATM, so as to enhance the overall retail sales and services offering by coordinating payment arrangements and generalized banking services with the retail transaction(s). This combination of providing an ATM with other retail goods and services transactions is not only new, but would heretofore have been considered virtually heretical.

The essence of the preferred embodiments of the invention thus resides in the new combination of previously existing but separate means of access to the stream of daily commerce and banking. Meaningful combinations of ATMs and customer retail kiosks have never even been attempted before, possibly because the two technologies have undergone burgeoning technological growth in separately focussed directions. For example, certain telephone systems have been promoted as the "ATMs of the future," providing credit card recognition for instant, albeit remote, execution of retail services. Some ATMs dispense both bills and coin change, and offer services such as on-site check cashing with payment of the exact check amount in bills and/or coins. As described above, ATMs in the past have offered limited retail sales options such as the vending of postage stamps via the bill dispenser. But there has not been, heretofore, a meaningful incarnation of a single system, which an individual consumer can use in a single location, wherein real banking services, and real commercial and banking services, have been combined. Because it is difficult to define objectively, however, that which constitutes real or meaningful banking or retail services, the preferred embodiments of the invention are best characterized as providing a retail terminal offering at least two immediately accessible goods or services and selectively dispensing at least two forms of

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dispensable currency, to emphasize the novel plurality of uniquely combined system means intrinsic to the present invention. The system for providing these multiple services or goods is integrated, moreover, the invention does not comprise the mere freestanding combination of an existing ATM and an existing retail terminal in adjacent proximity.

One of the preferred embodiments of the present invention is that disclosed in U.S. patent application Ser. No. 08/643,827 entitled "Automated League and Tournament Device." Two goods or services offered are ATM services and game league services, and the two forms of dispensable currency take the form of bills from the bill safe/dispenser and the encodable credit made possible by the smart card encoder therein. Widespread variability is possible with respect to such combinations.

Another embodiment of the invention includes the following components. A free-standing or wall mounted ATM with traditional ATM hardware, software and banking network connections (and including a bill safe, bill dispenser, magnetic stripe card reader, keyboard and video screen) is augmented with additional means as follows. The ATM is fitted with a smart card reader/encoder, so that in addition to the traditional bill dispenser the ATM can dispense encodable currency onto a smart card or its equivalent (a PC card, a removable hard drive, or other means for encoding digital cash or electronic cash of various types.) The video screen is a touchscreen; internal software provides a first screen menu for selection of traditional ATM services and at least two additional immediate access retail services, which are selected from the group consisting of electromechanical games of skill services, smartcard services, insurance services, restaurant services, travel services, sports services, gaming device services, delivery services, coupon services, floral delivery services, gift basket delivery services, introduction services, audio services, news services transportation services, utility services, physician services, school services, security services, building services, credit services, directory services, home services, military services, personal services, automotive services, employment services, recreational services, travelers check services, children's services, videogames of skill services, Internet services, brokerage services, government services, entertainment services, library services, catalogue services, print services, diagnostic services, chat services, video services, database services, barter services, engineering services, pharmacy services, identification services, detective services, church services, loan services, training services, buying services, recruitment services, accounting services, photographic services, food services, radio services, credit services, theme park services, music services, financial services, full-line vending services, health care services, remote access services, payment services, computer services, search services, network services, subscription services, virtual reality services, advertising services, rental services, programming services, beverage services, credit/debit card services, freight services, stored value card services, beauty services, tax services, leasing services, medical services, emergency services, publishing services, counseling services, satellite services, screening services, real estate services, telephone services, ticket services, television services, dating services, information services, lottery services, software services, reservation services, communication services, Intranet services, adult services, referral services, repair services, legal services, consulting services, maintenance services, moving services, trade show services, design services, lodging services, mail services, fast food services, automated services, recording services, clothing

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services, wireless services, human services, and encryption services. For the purpose of this embodiment, the form such second service takes must be an immediately realizable service, with a good or service being generally immediately rendered to the individual using the system (airline or theatre tickets being printed on the spot, for example) or being separately commenced (initiation of a delivery of flowers in a remote city, for example). It is readily apparent that this combination system is quite different from any of prior art ATMs, telephone ATMs "of the future," or even personal computer Internet connections which may provide retail functions but do give access to at least two forms of dispensable currency.

The most preferred embodiments of the present invention include means for providing at least two retail services which are not only immediately realizable but are also immediately accessible to the individual user. Preferred immediate access services include game of skill services, music (juke box) services, vending, publishing (customized newspapers printed on the spot, for example), dating, smart card encryption, travel and entertainment ticketing, and financial, insurance and brokerage services. The consumer appeal of synthesized commercial and retail services with banking services is enormous, which in itself highlights the irony that these diverse services, and the means for providing them, have never been combined elsewhere heretofore.

User access to systems provided according to the invention will normally be accomplished by credit card, smart card or other identification card, but other means are contemplated as within the scope of the invention. Literally any means of positive identification of any given individual user to the system can be implemented, such as iris or fingerprint scans and matching to user databases. Smart card access itself will undoubtedly continue to evolve as smart cards increase in their accommodation of data and processing speed and ability, and this will only enhance the multiple retail and banking aspects of the preferred embodiments of the invention.

Referring now to FIGS. 3a-3e, five exemplary system combinations are illustrated schematically. FIG. 3a illustrates a combined ATM and juke box system; FIG. 3b illustrates a combined ATM and Internet retail terminal; FIG. 3c shows a combined ATM and insurance policy terminal; FIG. 3d illustrates a combined dating service and travel ticketing terminal; and FIG. 3e illustrates a combined ATM and lottery dispensing machine. These combinations are exemplary of the various conceptual incarnations of the invention as described above.

Referring now to FIG. 4, the multiple functionalities can be combined via a video touchscreen which provides for selection of a wide variety of goods and/or services. FIG. 4 is a partial side elevational view of a kiosk 40 including a control panel 42 having a video command touchscreen 44, at least one smart card dispenser 46, a credit card reader 48, stereo speakers 50, a bill (cash) acceptor 52, a bill dispenser 54 and a receipt (printer) dispenser 56. Optionally, one of the smart card dispensers 46 may be recording means for encoding information on media other than smart cards, including but not limited to magnetic recording tape; floppy or removable hard disks or drives; recordable CDs, PC cards or PCMCIA cards and etc. A motion/sound/position sensor 58 is also provided adjacent the video command touchscreen. A person using the control panel 42 thus has access to all available goods and/or services in a single location.

FIG. 5 illustrates the control panel 42 of FIG. 4 with its cover removed, exposing the underlying mechanical fea-

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tures not including the computerized control and optional network access means which drive the system. A bill dispenser security safe 55 is thus positioned surrounding the bill dispenser 54. A bill acceptor mechanism 53 known in the art supports the bill acceptor 52. A smart card safe 47 contains smart card inventory to supply to the smart card dispenser(s) 46. A motion/sound/position device 59 supports the sensor 58. A printer 57 provides receipts or other printed materials to the receipt (printer) dispenser 56. Each individual mechanism illustrated in FIGS. 4 and 5 is known in the art, and the invention combines a number of them in a novel and commercially irresistible way.

FIGS. 4 and 5 illustrate a video command touchscreen 44 which is deliberately in portrait rather than landscape orientation. This deliberate orientation enhances the suitability of the command screen to relatively long, single-column selection menus such as those of the World Wide Web on the Internet and also adds an attractive design feature to the kiosk containing it.

FIG. 6 illustrates a kiosk containing multiple transaction control panels similar to those of FIG. 4. A kiosk such as shown can house games, automobile refueling or fast food services in automated form, or virtually any other goods or services disclosed herein.

FIGS. 7a and 7b are side elevational views of a further embodiment of the invention. Segments 171 can house monitors, liquid crystal or gas plasma displays; segment 172 can house three dimensional volumetric displays including electromechanical games or displays or three dimensional video or holographic arrays. Kiosks such as are shown in FIGS. 7a and 7b may have, optionally, fold down seating and/or modular construction.

The invention is susceptible of widespread departure from the above disclosure without departing from the scope of the invention. Virtually any heretofore uncombined goods and/or services provision may be combined in the automated transaction terminal of the present invention. The key to the invention is the multiple functioning of the terminal as compared to primarily single purpose devices of the prior art. Another way of understanding the most preferred embodiments of the present invention is as an ATM combined with an additional functionality typically found, in the prior art, only in its own freestanding device, i.e., juke box, Internet terminal, etc. Combinations of individual goods and services can be customized to the theme or character of the intended location, and the combinations are thus deliberate, not slapdash.

Notwithstanding the foregoing description, the invention is only to be limited as is set forth in the accompanying claim.

I claim:

1. Integrated banking and transaction apparatus for use by a consumer, comprising:

an automated teller machine; and

means for providing a retail transaction to the consumer through an Internet interface to the automated teller machine.

2. The integrated banking and transaction apparatus according to claim 1, further comprising a smartcard reader/encoder.

3. The integrated banking and transaction apparatus according to claim 1, further comprising a magnetic stripe card reader/encoder.

4. The integrated banking and transaction apparatus according to claim 1, further comprising a smart card/magnetic stripe reader/encoder.

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5. The integrated banking and transaction apparatus according to claim 1, wherein said automated teller machine is capable of selectively dispensing currency to the consumer.

6. The integrated banking and transaction apparatus according to claim 1, further comprising means for selectively dispensing encodable currency.

7. The integrated banking and transaction apparatus according to claim 1, further comprising means for selectively dispensing digital cash or electronic cash.

8. The integrated banking and transaction apparatus according to claim 1, further comprising means for selectively dispensing encodable credit.

9. A method of providing banking services and transaction capability to a consumer in a single automated transaction machine, comprising the steps of:

providing automated teller machine access to the consumer via the automated transaction machine; and

providing Internet access to the consumer via the automated transaction machine and realizing a retail transaction.

10. The method of providing banking services and transaction capability according to claim 9, further comprising the step of providing a smartcard/magnetic stripe interface to the consumer via the automated transaction machine.

11. The method of providing banking services and transaction capability according to claim 9, further comprising the step of selectively dispensing encodable currency.

12. The method of providing banking services and transaction capability according to claim 9, further comprising the step of selectively dispensing encodable credit.

13. The method of providing banking services and transaction capability according to claim 9, further comprising the step of selectively dispersing digital cash or electronic cash.

14. The method of providing banking services and transaction capability according to claim 9, wherein the consumer can realize a transaction for goods or services, the goods or services being selected from the group consisting of banking services, electromechanical games of skill services, smart card services, insurance services, restaurant services, travel services, sports services, gaming device services, delivery services, coupon services, floral delivery services, gift basket delivery services, introduction services, audio services, news services, transportation services, utility services, physician services, school services, security services, building services, directory services, home services, military services, personal services, automotive services, employment services, recreational services, travelers/check services, children's services, videogames of skill services, Internet services, brokerage services, government services, entertainment services, library services, catalogue services, print services, diagnostic services, chat services, video services, database services, barter services, engineering services, pharmacy services, identification services, detective services, church services, loan services, training services, buying services, recruitment services, accounting services, photographic services, food services, radio services, credit services, theme park services, music services, financial services, full-time vending services, health care services, remote access services, payment services, computer services, search services, network services, subscription services, virtual reality services, advertising services, rental services, programming services, beverage services, credit/debit card services, freight services, stored value card services, beauty services, tax services, leasing services, medical services, emergency

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services, publishing services, counseling services, satellite services, screening services, real estate services, telephone services, ticket services, television services, dating services, information services, lottery services, software services, reservation services, communication services, Intranet services, adult services, referral services, repair services, legal services, consulting services, maintenance services, moving services, trade show services, design services, lodging services, mail services, fast food services, automated services, recording services, clothing services, wireless services, human services, and encryption services.

15. The integrated banking and transaction apparatus according to claim 1, further comprising a removable media encoder.

16. The integrated banking and transaction apparatus according to claim 1, further comprising means for selectively dispensing a smart card.

17. The integrated banking and transaction apparatus according to claim 1, further comprising means for selectively dispensing a credit card.

18. The integrated banking and transaction apparatus according to claim 1, further comprising means for selectively dispensing a debit card.

19. The integrated banking and transaction apparatus according to claim 1, further comprising means for selectively dispensing a stored value card.

20. The integrated banking and transaction apparatus according to claim 1, further comprising means for selectively dispensing a phone card.

21. The integrated banking and transaction apparatus according to claim 1, further comprising means for selectively dispensing removable media.

22. The method of providing banking services and transaction capability according to claim 9, further comprising the step of dispensing a smart card.

23. The method of providing banking services and transaction capability according to claim 9, further comprising the step of dispensing a credit card.

24. The method of providing banking services and transaction capability according to claim 9, further comprising the step of dispensing a debit card.

25. The method of providing banking services and transaction capability according to claim 9, further comprising the step of dispensing a stored value card.

26. The method of providing banking services and transactions capability according to claim 9, further comprising the step of dispensing a phone card.

27. The method of providing banking services and transactions capability according to claim 9, further comprising the step of dispensing removable media.

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28. An integrated banking and transaction apparatus for use by a consumer to purchase a floral service from a floral delivery service, comprising:

an automated teller machine;

an Internet interface to the automated teller machine that can provide the consumer access to the floral delivery service; and

a user interface to the automated teller machine;

wherein the consumer can purchase the floral service through the use of the user interface and the Internet connection.

29. The integrated banking and transaction apparatus according to claim 28, further comprising means for consummating the purchase with currency.

30. The integrated banking and transaction apparatus according to claim 28, further comprising means for consummating the purchase with encodable currency.

31. The integrated banking and transaction apparatus according to claim 28, further comprising means for consummating the purchase with digital cash or electronic cash.

32. The integrated banking and transaction apparatus according to claim 28, further comprising means for consummating the purchase with encodable credit.

33. A method for a consumer to purchase a floral service from a floral delivery service on an automated transaction machine, comprising the steps of:

providing automated teller machine access to the consumer via the automated transaction machine;

providing Internet access to the consumer via the automated transaction machine, such that the consumer can access the floral delivery service; and

purchasing the floral service from the floral delivery service.

34. The method for a consumer to purchase a floral service according to claim 33, further comprising the step of purchasing the floral service with currency.

35. The method for a consumer to purchase a floral service according to claim 33, further comprising the step of purchasing the floral service with encodable currency.

36. The method for a consumer to purchase a floral service according to claim 33, further comprising the step of purchasing the floral service with electronic cash or digital cash.

37. The method for a consumer to purchase a floral service according to claim 33, further comprising the step of purchasing the floral service with encodable credit.

* * * * *

C

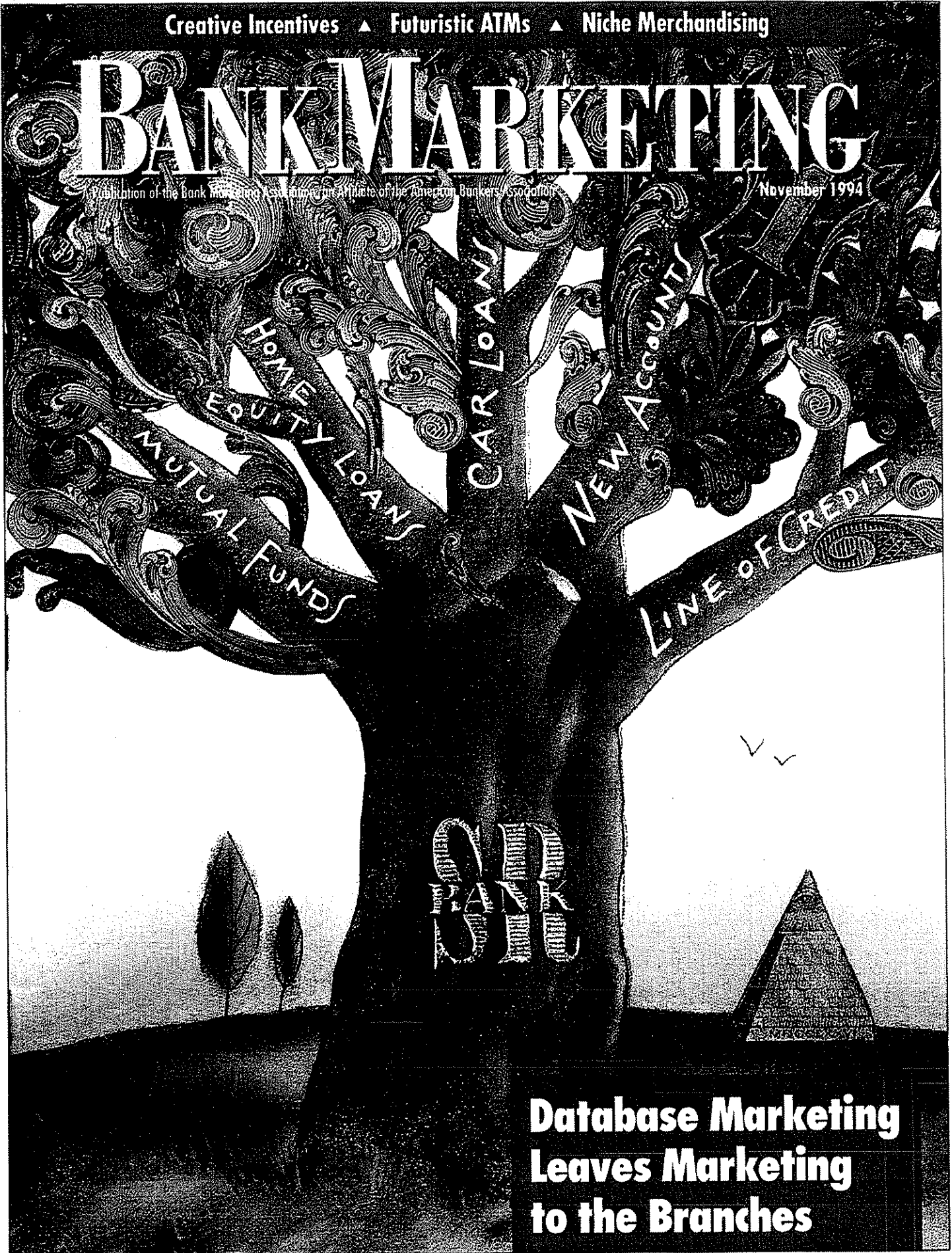
EXHIBIT C

Creative Incentives ▲ Futuristic ATMs ▲ Niche Merchandising

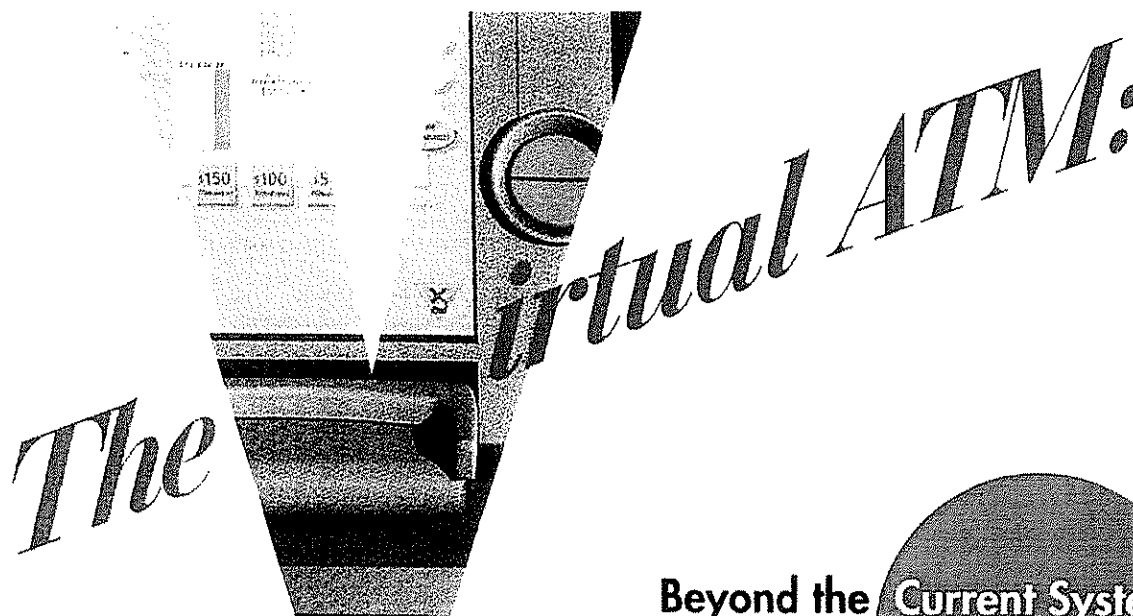
BANK MARKETING

Publication of the Bank Marketing Association, an Affiliate of the American Bankers Association

November 1994



**Database Marketing
Leaves Marketing
to the Branches**



The Virtual ATM:

by Alex Subrizi and William Hull Faust

Addressing the shortcomings of current ATMs from the banks' and users' perspectives was the impetus for this redesign project.

Beyond the Current System

Possibly no other single technology has affected retail

banking more than the automated teller machine (ATM). Since its introduction almost two decades ago, the ATM has permanently altered the relationship between banks and their customers, allowing customers access to 24-hour service, remote banking, and a quick and efficient means for numerous transactions without having to enter a branch.

This positioning—the ATM as a customer-centered convenience—is somewhat ironic in that the original goal of ATMs was operational efficiency. In the beginning, ATMs were designed literally to displace human tellers or at least decrease their burden. This did not happen for several reasons and as time passed, banks realized that it was to their good fortune. Discouraging customers from having to enter a branch altogether limits the bank's ability to introduce and promote new products and services, such as loans and securities, that require personal service.

As with most new technologies, some aspects of ATM banking have changed dramatically over the past 20 years while others have not. Certainly, today's ATMs are more automated and feature-rich, allowing customers to do far more than basic deposit and withdrawal transactions. But perhaps the most pervasive change is simply availability. ATMs are no longer a novelty, and, in fact, are now expected by a large portion of customers. International networks, such as Cirrus and Plus, have accelerated the deployment and use of ATMs both domestically and abroad. A recent television commercial shows a couple vacationing in what seems to be a remote Middle-Eastern area. Once a local boy realizes that their money has been stolen, he leads them past camels and palm trees to an ATM—in the middle of what appears to be an ancient building in an even older city. The humor is refreshing, but moreover, the message is clear—ATMs are now in

This prototype of the new ATM shows a large, colorful screen covered with icons, that, when pressed, rapidly move the customer through all his or her requested transactions.

every corner of the world, linked by common networks, accessible to all.

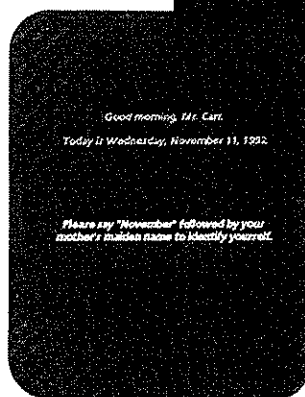
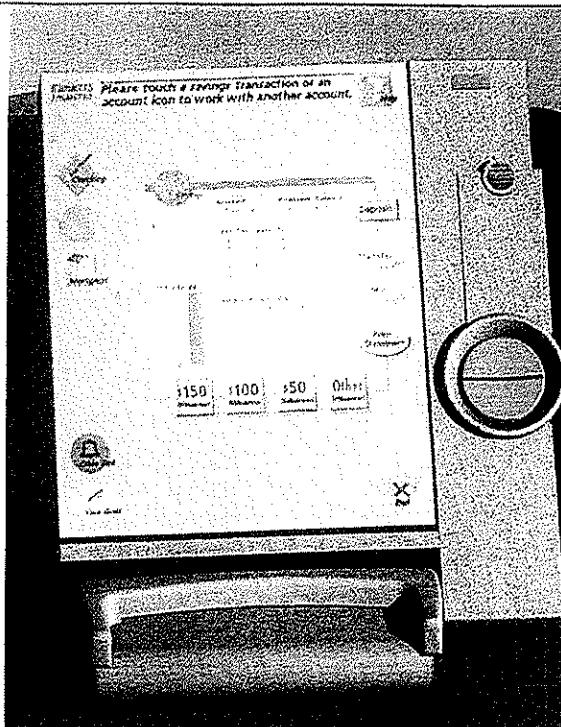
In spite of its widespread presence and growing popularity, the ATM's physical design and user interface have changed at a disappointing rate, which limits its usability. Granted, incremental improvements in technologies have caused keyboards, screens and vestibules to become somewhat more user-friendly and private. But there have been no dramatic advancements toward improved usability, and few banks or manufacturers have asked the question—"What if we were to design this delivery system [ATMs] from the customer's perspective?"—until now.

A Clean Slate

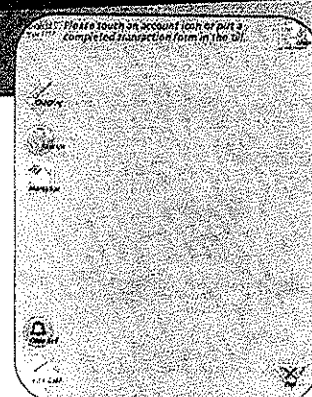
In late 1992 an interdisciplinary development team from NCR (now AT&T Global Information Solutions) and Fitch, an international product development consultancy, set out to design the next-generation automated teller machine—from the user's perspective. The primary goal was to address the shortcomings of current ATM designs, from both the banks' and end-users' points of view. Another objective was to enhance the utility of ATMs (by adding functions that weren't strictly related to banking) while simplifying and streamlining their operation. Specifically, some goals of the project included designing an ATM that:

- ~ uses either visual or voice recognition in place of PINs or user IDs;
- ~ is based on data-rich smart cards as opposed to standard magnetic-stripe cards;
- ~ incorporates color LCD touch-screen technologies;
- ~ eliminates the need for keypads or buttons;
- ~ employs a simple yet sophisticated graphical user interface (GUI);
- ~ provides more opportunities for on-screen brand identification by the bank or other service providers;
- ~ complies with American Disabilities Act (ADA) standards;
- ~ integrates hardware and software elements both visually and functionally; and
- ~ makes use of advanced, yet currently available, technologies.

While the physical or hardware side of this project was considered, the focus quickly became the graphical user interface or GUI. The reasoning was that as access to typical ATM func-



The virtual ATM asks for a voice-print to grant customers access.



The keypad is eliminated by the LCD touch screen, which offers customers easily understood icons and instructions.

tions becomes available through other electronic distribution channels, such as televisions or personal computers, the physical surroundings may lie beyond the control of the bank. This exploratory effort was driven by an assumption that innovations in interactive television, wireless technologies, and hand-held communications, combined with the increased technological sophistication of the general public, necessitated a reconsideration of the ATM system. The net result of this collaborative effort was a conceptual prototype of the SmartCard ATM, including two computer animations of the on-screen GUI.

Examining the "State of the Art"

The team began by asking how well current machines fulfilled the original notion of an "automated teller." As mentioned earlier, ATMs were originally conceived as a replacement for bank tellers, but for reasons ranging from the difficulty in memorizing personal identification numbers to



problems with understanding on-screen instructions, many users still view them only as cash dispensers.

Some customers still prefer to interact with tellers for dealings beyond basic transactions, while others, particularly older adults, consider ATM transactions to be too intangible, threatening, or unreliable and are reluctant to use ATMs at all.

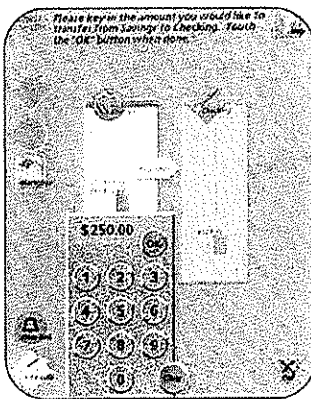
Current ATM interfaces lead the customer through a generic series of hierarchically organized choices, most of which require a great deal of reading and may or may not take them where they want to go. The customer's limited ability to respond to these choices creates the impression that the ATM itself is inflexible and uncooperative—reflecting negatively on the bank and preventing a truly interactive experience where the customer is in control. In addition to being unpleasant to use, existing ATM interfaces also suffer from a limited ability

customer approaches an idle ATM, the LCD screen darkens and the reader's colored light signals the machine's status and the locus of the first interaction by greeting the user with the statement "Please insert your card."

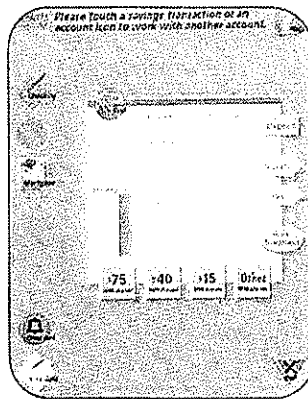
The color LCD touch screen's vertical orientation is well suited to multiple rows of figures and, with a customer standing before it, is less vulnerable to someone eavesdropping on the customer's transaction than on a horizontal screen. For wheelchair-bound users, the screen's housing pivots at the base to provide a more comfortable viewing angle. Virtually all interaction with the SmartCard ATM's software occurs through the touch screen. There are no physical keypads or soft keys.

The Virtual Interface

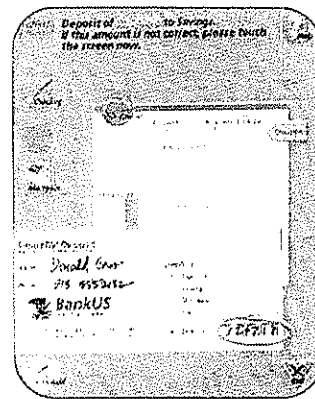
The SmartCard ATM's software environment is based on the notion of a personal banking space. This is a virtual space tailored to the user's habits and native language as described on



In this sequence, a customer transfers \$250 from savings to checking . . .



and then continues with a second transaction, depositing a check into savings.

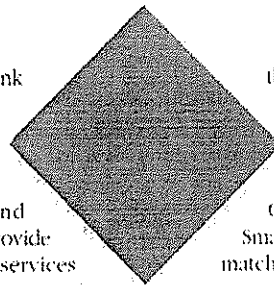


The ATM enters the amount of deposit by reading the customer's handwriting (using handwriting information stored on the SmartCard) and the amount is automatically credited.

to solve customer problems, explain bank practices and policies, cross-sell other bank services or generally enhance customer relations. A truly customer-driven approach to the ATM interface should not only enhance usability and therefore acceptance, but should also provide opportunities to extend the array of services offered through this distribution channel.

The Physical Interface

To maximize adaptability for a number of ATM configurations, the team chose a simple arrangement of three physical elements: screen, card reader, and till, to replace the melange of slots, buttons, keypads, and tickers of existing designs. The card reader, glowing with colored light and molded to receive the SmartCard, sits next to the vertical screen like a talisman. As a



the SmartCard's memory chip. The banking space may be "branded" in accordance with the issuing bank, so that the user enters the same banking space regardless of the ATM's external branding (a competitor's branch location, for example) or geographic location. Customers enter the banking space by inserting their SmartCards and reciting a short phrase. Their voiceprint is matched to that encoded on the SmartCard and the space opens. This eliminates the need to memorize and key in a PIN, although the user may elect to use PIN identification.

The personal banking space is just that—a space for banking. Inspired by the iconic desktops of today's personal computers, it is populated by objects for the user to open and interact with. Unlike PC desktops, however, it is deliberately "chunky" in design. Streamlined in both appearance and operation, it includes a bold prompt area (in the user's language of choice) and a special "help" object to guide the

uninitiated. The user gets around by touching objects in the banking space. There is no dragging, scrolling or clicking as there is with a PC mouse device. The user simply pokes the screen, and very few times at that. Touching an object opens it, which means the user sees its contents and some on-screen buttons for working within it. Objects typically represent bank accounts, so touching the checking icon yields an electronic statement showing a customer's current balance, checks cleared, and a set of "buttons" for withdrawing or depositing funds.

In technical terms, the SmartCard ATM makes use of an object-oriented, event-driven graphical user interface. In practice, it turns the transaction-based interrogation-style interaction of existing ATMs on its head. The user is no longer asked about accounts he or she does not have. The user picks the account and works within it, just as she would pick up her checkbook or passbook.

To ease clutter and avoid confusion, only one account can be opened at any given time (except in the case of transfers or payments). This keeps the information readable and the touch-targets large. It also avoids any reference to "windows," or "active versus inactive" areas that are common with personal computers. Customers have the option of configuring the contents of their banking space, including the controls and information linked to the objects within it (that is, preset cash withdrawal amounts, automatic display of account balance, and others). Also, the objects within the space might not be limited to bank accounts, but could include accounts with utility companies, credit card companies, and third-party brokerage houses as conveniences for the customer and as incremental revenue opportunities for the bank.

The banking space metaphor is powerful enough to migrate to other hardware, including TVs, desktop computers, and hand-held personal digital assistants such as Apple's Newton. While a customer would not be able to withdraw cash from these other devices, the idea of a branded virtual banking space that can be accessed from a variety of information "ports" recasts the traditional ATM as just one public-access window into a ubiquitous financial network, an

Beyond the Current System

endless lattice of financial and other services that will eventually be part of the information superhighway.

Toward a Consumer-Driven ATM

Though not slated for production, the concepts embodied in this design exploration are intended to set a new standard for the future development of ATM machines. Conceptually, it represents a quantum leap from most ATM interfaces currently deployed which have not seen many significant advancements since their introduction in the early 1980s. It exists today as a benchmark—a collection of lessons and ideas for the development of actual products.

The most obvious advantage demonstrated through this concept is increased usability, leading to a greater percentage of bank customers relying on ATMs for more of their banking needs. New users are likely to be less intimidated by the graphical nature of the interface and will feel a greater sense of confidence and control. Existing users are likely to increase their reliance on ATMs in response to increased capabilities.

The "personal banking space" metaphor could be extended to support other nontraditional activities such as bill payment, purchase of airline tickets, travel reservations, and brokerage transactions. As banks move toward new forms of electronic distribution, they will need to consider how their customers interact with these delivery systems and take a user-driven approach to development versus one that is constrained by technology or operational requirements. ■

William Hull Faust is a vice president and senior consultant with Fitch specializing in the financial services industry. Alex Subrizi is an associate vice president at Fitch where he directs the Multimedia and Interface Design group. They can be reached in Worthington, Ohio, at (614) 885-3453.

SHOPPER'S GUIDE

This company appears under the heading of ATM Services in *Bank Marketing* magazine's Annual Buyer's Guide.

Diebold Incorporated
Canton, Ohio
Ron Marguglio
(800) DIEBOLD

These companies appear under the heading of Bank Cards & Services in *Bank Marketing* magazine's Annual Buyer's Guide.

Equifax Card Services*
Tampa, Fla.
Dennis Driscoll
(800) 237-2997

Forms America Corp.
Westchester, Ill.
Barry Thomisen
(800) 824-1821

John H. Harland Co.*
Atlanta, Ga.
Sam Harrison
(800) 723-3690

Money Stations, Inc.*
Columbus, Ohio
Julie Sferrella
(614) 846-7461

Star System, Inc.*
San Diego, Calif.
Nikki Waters
(619) 234-4774

* Industry Service Member of the Bank Marketing Association

D



US005397886A

United States Patent [19]

Mos et al.

[11] Patent Number: **5,397,886**[45] Date of Patent: **Mar. 14, 1995**[54] **MAGNETIC STRIPE AND/OR MICRO CHIP
CARD MOTORIZED READER/ENCODER
MECHANISM**[75] Inventors: Robert J. Mos; Robert J. Mos, both
of San Diego, Calif.; Rene F. Baus,
Jr., New Iberia, La.[73] Assignee: Mos Magnetics Corporation, San
Diego, Calif.

[21] Appl. No.: 75,131

[22] Filed: Jun. 10, 1993

[51] Int. Cl.⁶ G06K 13/00

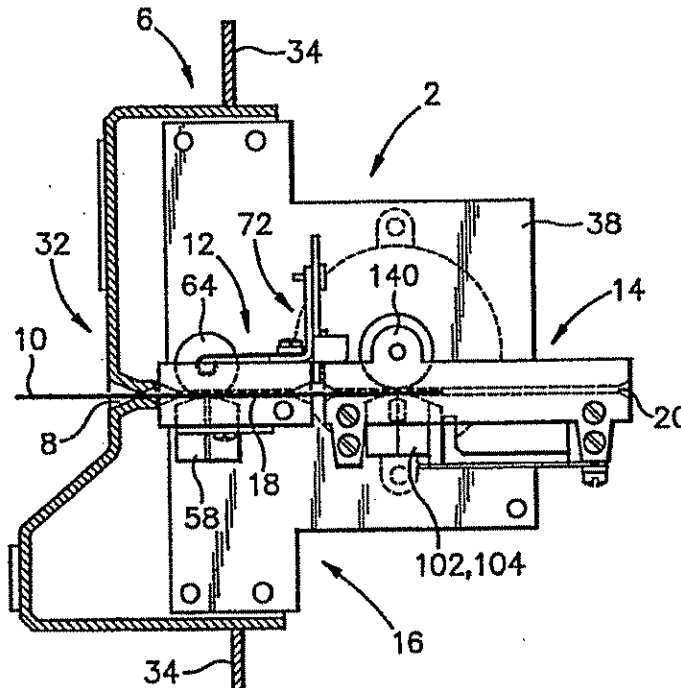
[52] U.S. Cl. 235/475; 235/440

[58] Field of Search 235/475, 441, 479, 480,
235/440[56] **References Cited****U.S. PATENT DOCUMENTS**

5,099,111 3/1992 Takakura et al. 235/441

Primary Examiner—Davis L. Willis*Assistant Examiner*—Peter J. Rashid*Attorney, Agent, or Firm*—Baker, Maxham, Jester &
Meador[57] **ABSTRACT**

A motorized card reader/encoder mechanism of novel design utilizes a positionable card handling system to perform card reading and/or encoding operations efficiently and with minimal space requirements. In a preferred configuration, the card mechanism includes a generally rotatable guide assembly having a card path for receiving and transporting a card for read/encode operations, and optionally, a generally fixed throat assembly for directing a card to the card guide assembly. The guide assembly is rotatable between a plurality of positions including a card transfer position wherein the guide assembly is in generally adjacent alignment with the throat assembly, a card read/encode position wherein the guide assembly is in a rotated position not in substantial alignment with the throat assembly, and a card retention position wherein the guide assembly card path is oriented generally vertically in order to transfer a card to a card capture bin. A single station drive system is provided for transporting a card without substantial jitter, and for rotating the guide assembly between the transfer position and the read/encode and card retention positions.

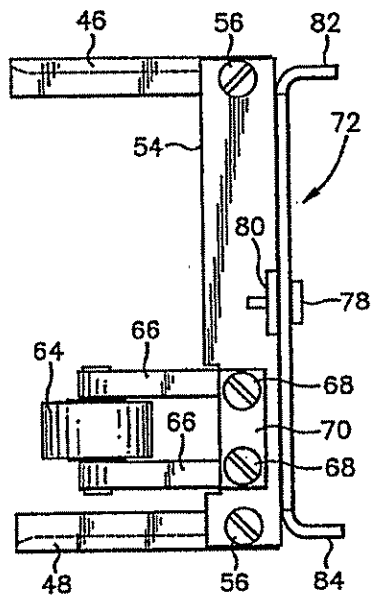
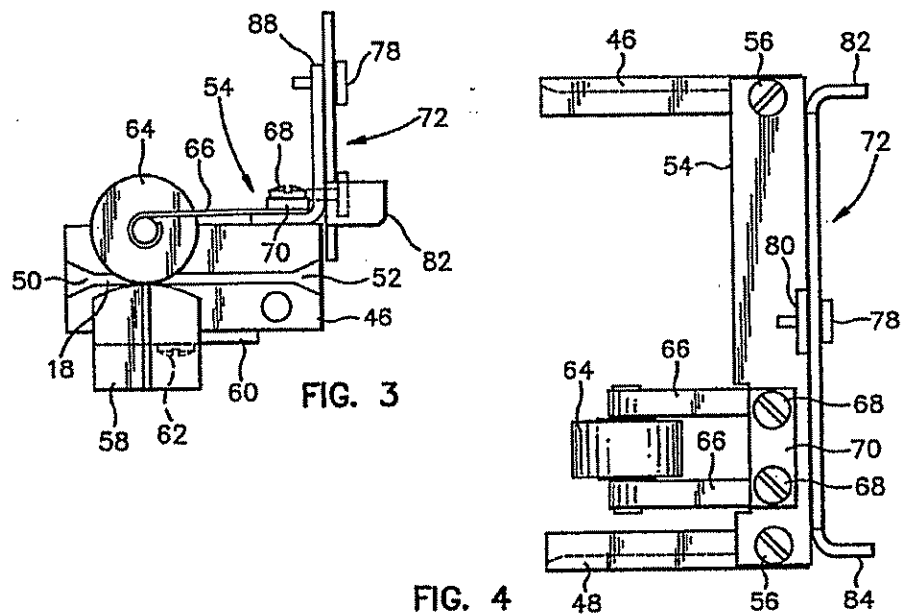
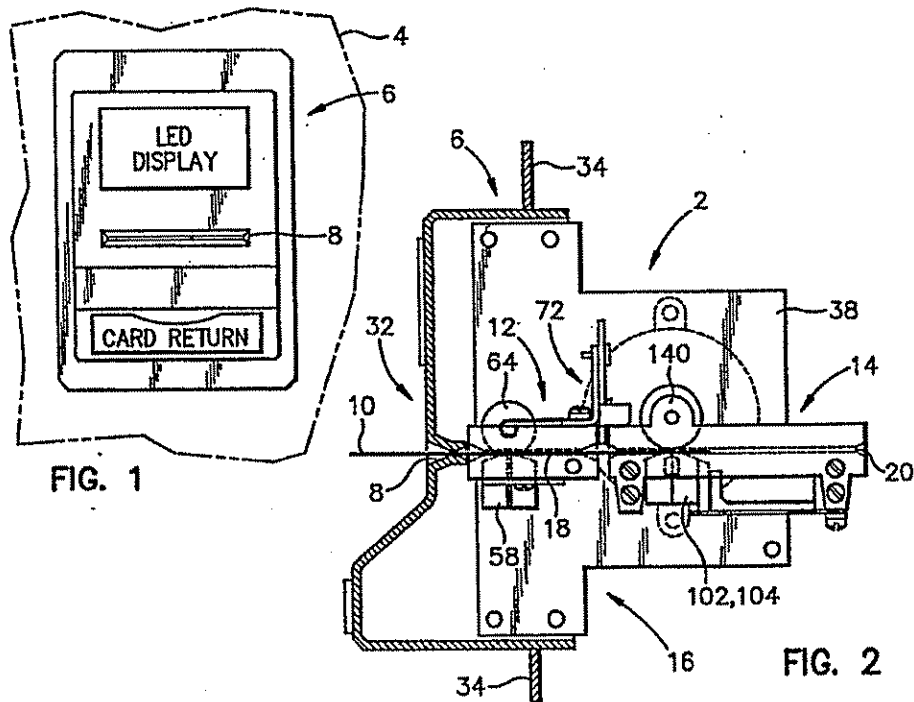
20 Claims, 7 Drawing Sheets

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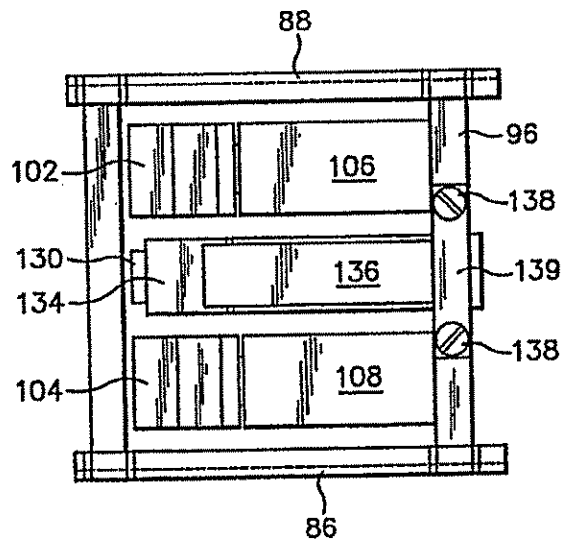
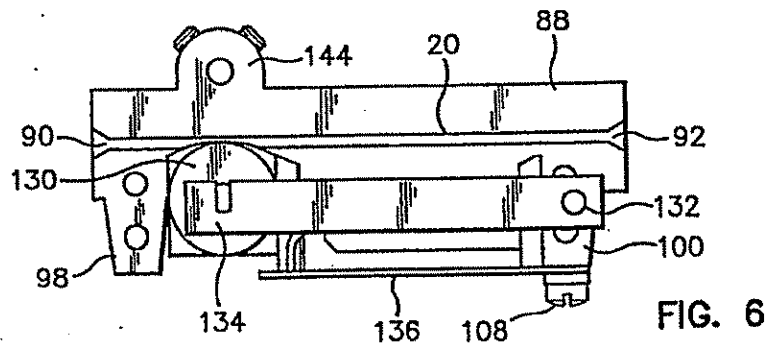
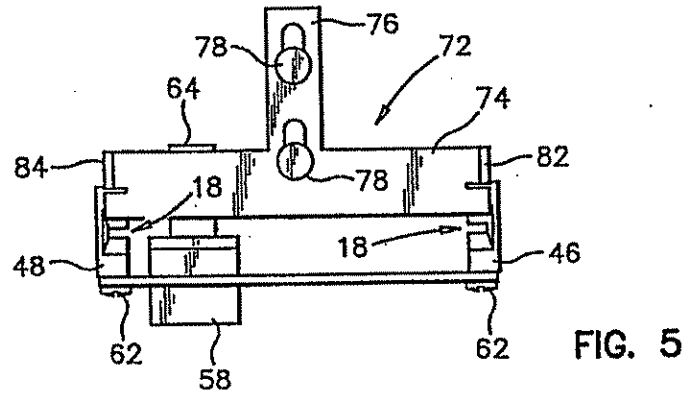


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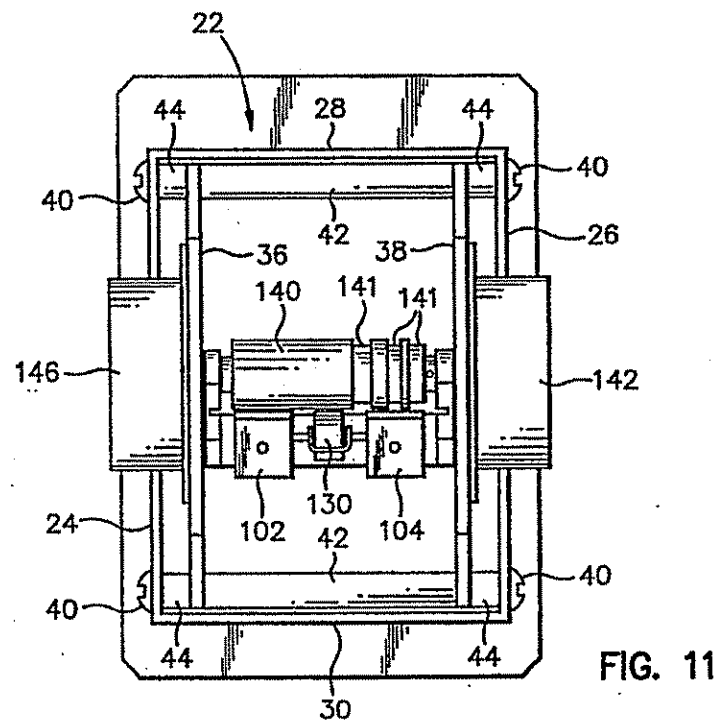
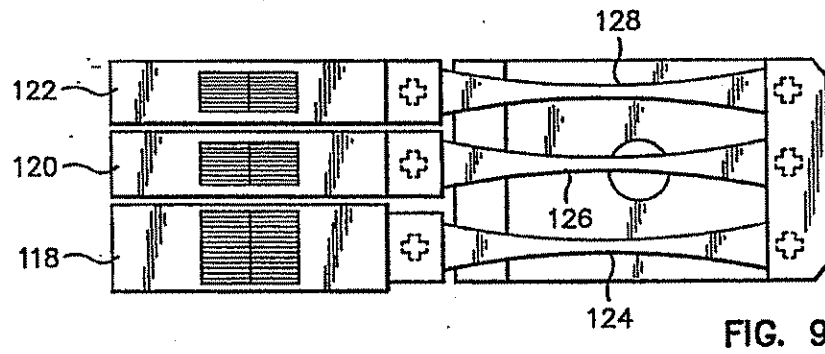
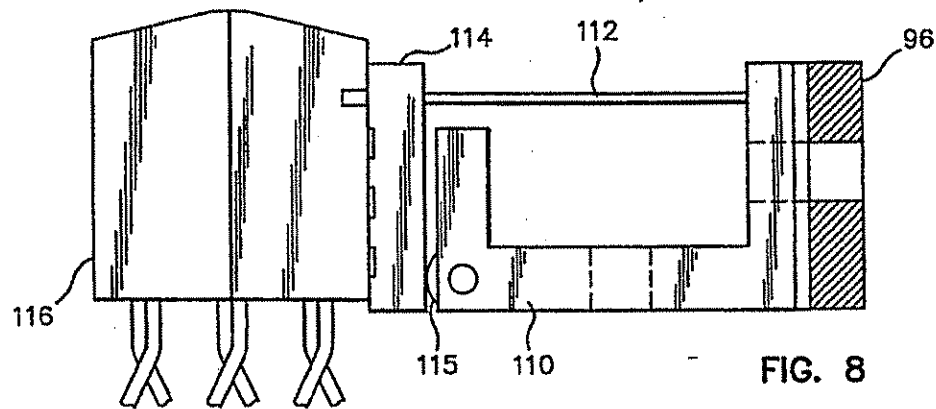


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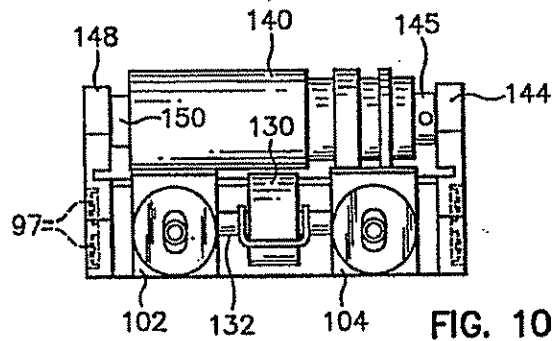


FIG. 10

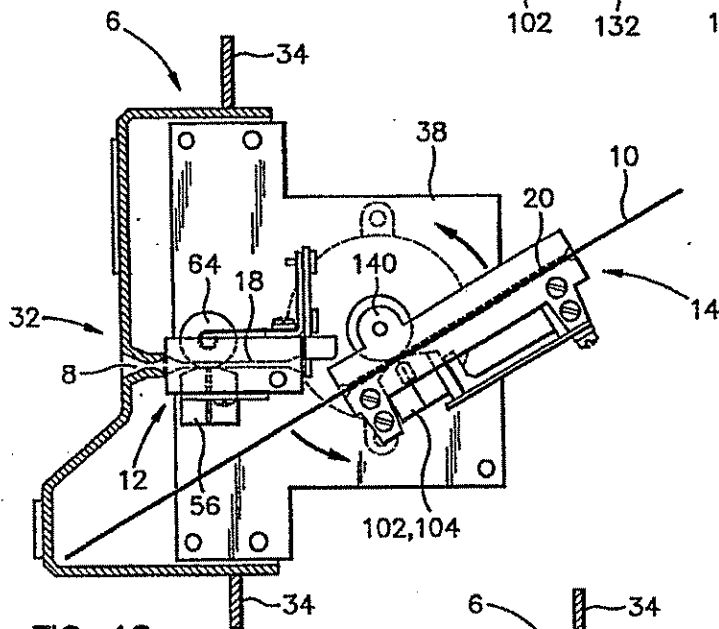


FIG. 12

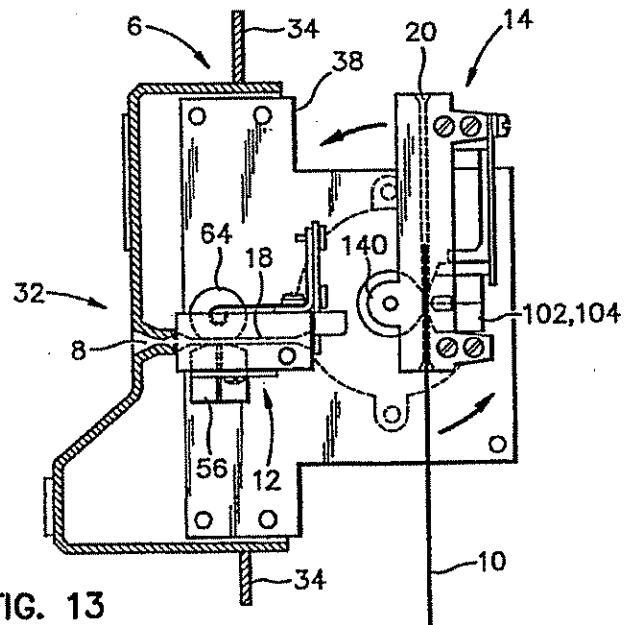


FIG. 13

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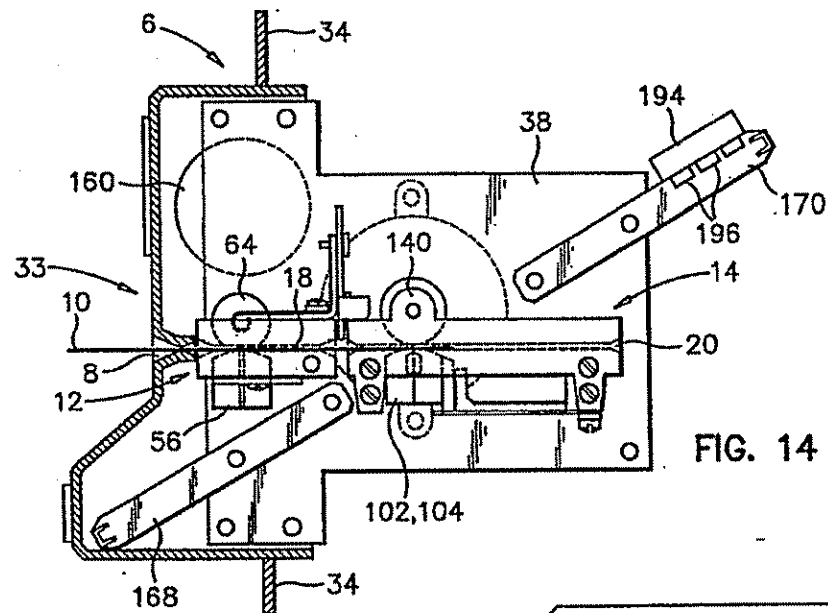
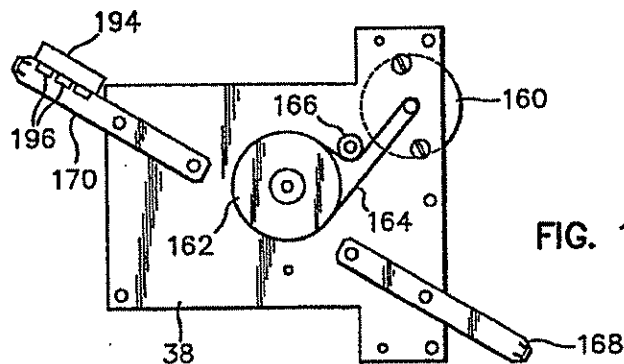
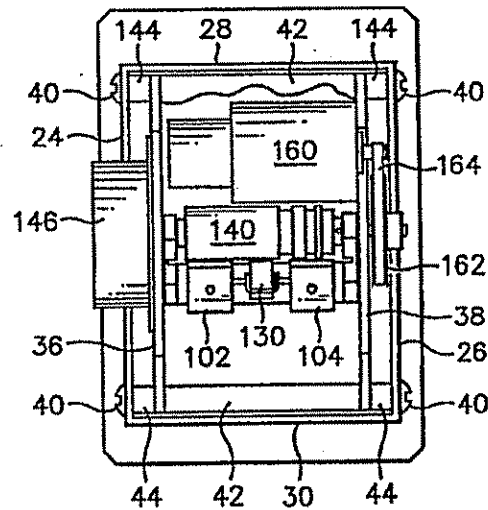


FIG. 15

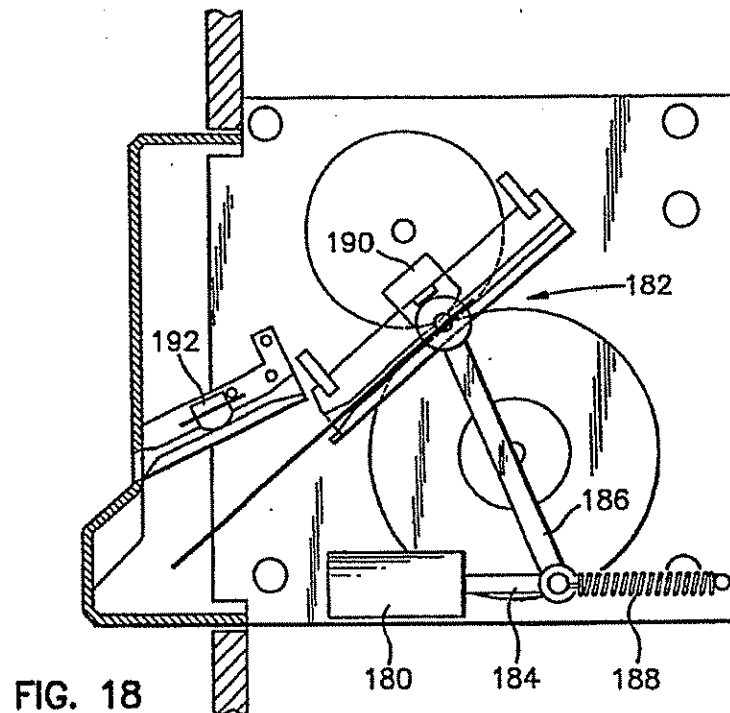
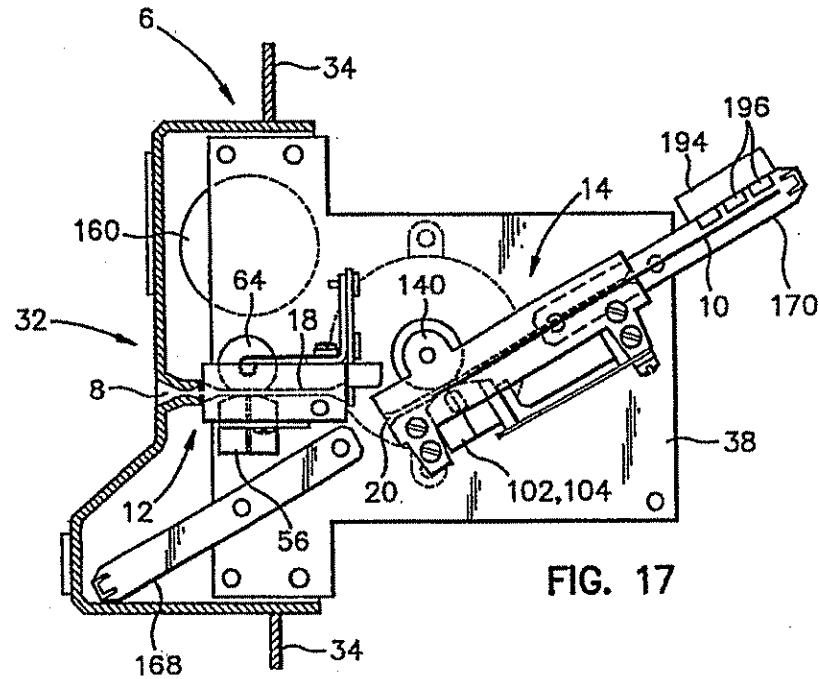


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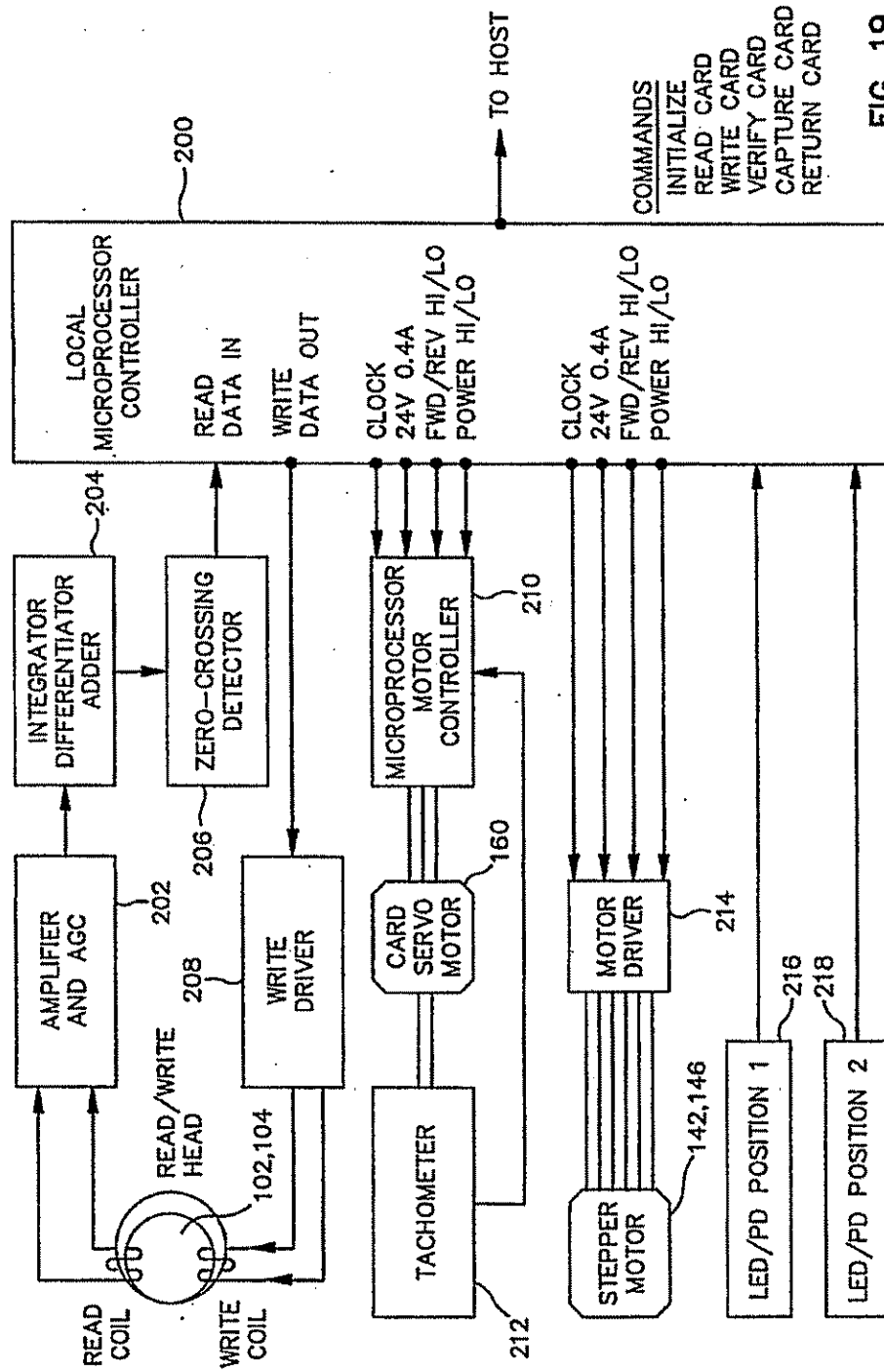


FIG. 19

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MAGNETIC STRIPE AND/OR MICRO CHIP CARD MOTORIZED READER/ENCODER MECHANISM

BACKGROUND OF THE INVENTION

The present invention is directed to apparatus for reading and/or encoding magnetic stripe and/or micro chip cards, including bank cards, credit cards, debit cards, identification cards and many others.

Automated teller machines (ATMs), gasoline pump stations and other apparatus designed to operate with magnetic stripe and/or micro chip cards utilize card handling mechanisms in order to perform data read/write operations. The majority of motorized card reader/encoders available today are similar in design and appear to be based on an original ATM design introduced in the late 1970's. Typically, such devices measure about seven to eight inches deep by three to four inches high by three to four inches wide behind the mounting plate of the apparatus in which they are installed. The throat, bezel, and entrance slot generally extend forwardly of the apparatus mounting plate approximately one and one-half inches.

Prior art card reader/encoders typically contain two drive stations (four rollers) which are driven by a constant speed servo motor that couples to the drive rollers through pulleys and belts. In the prior art systems, it is difficult to maintain a constant card transport velocity. The flexibility of the belts, as well as the variable friction imposed on the card by the guide slot, the magnetic heads, and the rollers that come into contact with the card, all contribute to instantaneous speed variations (ISVs). When ISVs occur during read/write operations, a phenomenon known as "jitter" results. Card jitter causes sudden, small, irregular departures from the phase, amplitude or pulse duration of a signal due to disruptions in the timing of or spatial variations between successive magnetic pulses, and often leads to read/write errors. To prevent jitter from being introduced into encoded data, prior art reader/encoders typically employ an optical or a magnetic encoder, driven by a rubber faced roller, that generates a clock signal for read/encode operations performed by a downstream magnetic head system. Because the clock signal controlling the read/encode operations varies with the speed of the card, jitter is reduced and the device is rendered less sensitive to ISVs.

A disadvantage of the prior art reader/encoders is the complexity of the drive train and the requirement for a clocking encoder which adds materially to the manufacturing cost of such devices. Moreover, clocking encoders are only marginally effective in overcoming jitter. Indeed, most credit cards in circulation do not meet ANSI or ISO jitter standards. A further disadvantage of the prior art systems is the necessity of having two rather than one drive station, which substantially increases drive train length.

The excessive length of the prior art optical encoders makes them too long to fit into the allotted space of many existing and proposed card reading apparatus. In today's market, magnetic stripe and/or micro chip cards are being used with increasing frequency in automated teller machines, point of sale terminals, bank teller stations, gasoline pump stations, vending machines, drivers license identification apparatus, telephone credit and debit card stations, security access equipment and check cashing identification devices.

These applications demand reader/encoders that can be reduced in size without sacrificing functionality.

What is needed therefore is a motorized card reader/encoder for reading and encoding magnetic stripe cards and/or micro-chip cards such as bank cards, credit cards, identification cards, debit cards and the like in accordance with ANSI and ISO standards where applicable. Given the wide variety of anticipated applications, the reader/encoder should be capable of reading and encoding any combination of three tracks specified by ANSI and ISO standards at either 75 bpi or 210 bpi (bits-per inch). The reader/encoder should likewise be capable of reading and encoding debit cards containing two or more stripes. Provision should also be made for card capture in the event of a security breach. The reader/encoder device should be able to sense foreign objects and exclude them in order to prevent outside interference with the card during read/write operations. It would be further desirable to provide programming capability to accept only specific encoded cards. Debit card dispensing would be another desirable characteristic. Finally, the capability of reading a micro-chip card (smart card) in a stationary position should be available with minimal modification or redesign.

Each of the foregoing design objectives should be provided at the lowest possible cost, in the smallest possible configuration, with high reliability, low maintenance and ease of conversion for special applications.

SUMMARY OF THE INVENTION

In accordance with the foregoing objectives, a motorized card reader/encoder mechanism of novel design utilizes a positionable card handling system to perform card reading and/or encoding operations efficiently and with minimal space requirements. In preferred embodiments, the card mechanism includes a generally rotatable guide assembly providing a card path for receiving and transporting the card during read/encode operations, and optionally, a generally fixed throat assembly. The guide assembly is rotatable between a plurality of positions including card transfer position wherein the guide assembly is in generally adjacent alignment with the throat assembly, a card read/encode position wherein the guide assembly is in a rotated position not in substantial alignment with the throat assembly, and a card retention position. A single station drive system is provided for transporting a card without substantial jitter, and for rotating the guide assembly between the transfer position and the read/encode and card retention positions.

There is proposed, therefore, a card reader/encoder whose overall size, including the depth of the unit, is greatly reduced from that of prior art devices, and which does not require optical or magnetic encoders to provide jitter-free operation, yielding accurate data read/write operations without added cost or complexity. Additional advantages result from an ability to provide a reliable card capture system which would otherwise be difficult to achieve.

BRIEF DESCRIPTION OF THE DRAWINGS

The objects, advantages and features of the present invention will be more clearly understood by reference to the following detailed disclosure and the accompanying drawing in which:

FIG. 1 is a front elevational view of the bezel of a typical card-activatable apparatus in which the card

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mechanism of the present invention could be incorporated;

FIG. 2 is a side elevational view of a card mechanism constructed in accordance with a first aspect of the present invention including stepper motor drive components, showing the mechanism in a card transfer position;

FIG. 3 is a partial side view of a throat assembly of the card mechanism of FIG. 2;

FIG. 4 is a plan view of the throat assembly of FIG. 3;

FIG. 5 is a rear view of the throat assembly of FIG. 3;

FIG. 6 is a partial side view of a card guide assembly of the card mechanism of FIG. 2;

FIG. 7 is a plan view of the card guide assembly of FIG. 6;

FIG. 8 is a side view of a magnetic head spring mount assembly;

FIG. 9 is a top view of the magnetic head spring mount assembly of FIG. 8;

FIG. 10 is a rear view of the card guide assembly of FIG. 6;

FIG. 11 is a rear view of the card mechanism of FIG. 2;

FIG. 12 is a side elevational view of the card mechanism of FIG. 2 showing the mechanism in card read/encode position;

FIG. 13 is a side elevational view of the card mechanism of FIG. 2 showing the mechanism in a card retention position;

FIG. 14 is a side elevational view of a card mechanism constructed in accordance with a second aspect of the present invention including stepper motor and servo motor drive components;

FIG. 15 is a rear view of the card mechanism of FIG. 14;

FIG. 16 is a partial side view of a card guide assembly of the card mechanism of FIG. 14;

FIG. 17 is a another partial side view of the card guide assembly of FIG. 16;

FIG. 18 is a side elevational view of a card mechanism constructed in accordance with a third aspect of the present invention including solenoid and stepper motor drive components; and

FIG. 19 is a block diagram showing the operation of a sensor system and drive control system of a card mechanism constructed in accordance with the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to FIGS. 1 and 2, a magnetic stripe card reading/encoding mechanism 2 is installed in a conventional magnetic stripe card-activatable apparatus 4 which may be an ATM, a gasoline pump station or any other card reading and/or encoding device. A bezel 6 is mounted to the apparatus 4 and supports the card mechanism 2 as well as other components such as an LED (light emitting diode) text display, a card return switch and perhaps other equipment (not shown) providing transactional functionality to a customer or other user. The bezel 6 includes a generally horizontal slot 8 forming an opening for inserting a card 10 into the apparatus 4.

Behind, or as part of the slot 8, the card mechanism 2 optionally includes a throat assembly 12 to receive the card 10 from the slot 8. Positioned behind the throat

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assembly 12 (or the slot 8 if the throat assembly is not used) in adjacent relationship therewith is a card guide assembly 14. Both the throat assembly 12 and the card guide assembly 14 are mounted to a card mechanism support frame or chassis 16, which is itself attached to the bezel 6. As described in more detail hereinafter, the throat assembly 12 is fixedly mounted to the support chassis 16 while the card guide assembly 14 is rotatably mounted to the support chassis. The throat assembly 12 and the card guide assembly 14 each include a card guide, 18 and 20, respectively, which can be oriented in adjacent mutual alignment by directing the card guide assembly to one rotational position. Alternatively, the card guides 18 and 20 can be positioned into substantial nonalignment by rotating the card guide assembly to another rotational position, as shown, for example, in FIGS. 12 and 13.

Referring now to FIGS. 2 and 11, the bezel 6 can be constructed using a multitude of design configurations but is shown by way of example as including a box-like support frame structure 22 formed from a pair of side plates 24 and 26, a top plate 28 and a bottom plate 30. The bezel 6 further includes a front face 32 and a continuous peripheral mounting flange 34 extending outwardly from the support frame structure 22. The mounting flange 34 can be mounted to the card-activatable apparatus 4 by any suitable attachment arrangement (not shown), but such attachment is preferably readily disengageable to facilitate removal of the card mechanism 2 from the apparatus 4 for servicing and/or replacement.

The support chassis 16 mounts to the frame structure 22 of the bezel 6. The chassis 16 includes a pair of generally T-shaped mounting plates 36 and 38. The mounting plates 36 and 38 are attached to the frame structure 22 using threaded fasteners 40. A spacer sleeve 42 is provided between the mounting plates 36 and 38 and locked between the mounting plates by appropriate fasteners (not shown). Spacer sleeves 44 are positioned to engage the fasteners 40 and provide a secure attachment configuration between the frame structure 22 and the mounting plates 36 and 38.

Referring now to FIGS. 2-5, the card guide path 18 of the throat assembly 12 is formed by a pair of slotted guide members 46 and 48, which are fixedly mounted by appropriate fastening members to the chassis mounting plates 36 and 38. The guide members 46 and 48 forming card guide 18 define a card path that is of generally linear configuration and which has a first end 50 and a second end 52. Preferably, the distance between the vertical walls of the guide slots is slightly greater than a typical card width of 2.125 inches \pm 0.002. Extending between the guide members 46 and 48 is a cross bar member 54, which is mounted to the guide members using conventional fasteners 56.

The throat assembly 12 is positioned to receive the card 10 from the horizontal bezel slot 8 and transfer it to the card guide assembly 14. To that end, the throat assembly 12 includes a card sensor 58 mounted between the slotted guide members 46 and 48, preferably at an off-center location corresponding to the typical location of a magnetic stripe on the card 10. A cross bar member 60 is used to attach the sensor 58 to the guide members 46 and 48. The cross bar member 60 is mounted to the guide members using appropriate fasteners 62.

Positioned in opposing relation to the card sensor 58 is an idler wheel 64. The idler wheel 64 is mounted to

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the cross bar member 54 via a pair of spring loaded biasing arms 66 attached to the cross bar member 54 using conventional fasteners 68 and a cover plate 70. Thus, the card 10 is assured of positively engaging the card sensor 58 while in the card guide 18.

As discussed in more detail hereinafter, the card sensor 58 generates a signal in response to the presence of the card 10 in the card guide 18, which signal enables the card to gain access to the card guide assembly 14 for reading and/or encoding operations. To further control the movement of the card 10 in the card mechanism 2, the card guide assembly is provided with an access control gate 72. The control gate 72 includes a generally horizontal shutter 74 having a central slotted leg 76. The slotted leg 76 is mounted by appropriate fasteners 78 to a central upright leg 80 of the cross bar member 54. The shutter 74 is slideably positionable between a raised position (shown in FIG. 5) and a lowered position (not shown) wherein the shutter 74 blocks the throat assembly guide 18 to prevent the card 10 from passing the gate 72. The shutter 74 further includes a pair of lateral flanges 82 and 84 which are configured for engagement with the card guide assembly 14, in order to raise and lower the shutter 74. A spring (not shown) may be optionally provided to ensure that the shutter is positively biased to the lowered position when not engaged by the card guide assembly 14.

Turning now to FIGS. 2 and 6-10, the card guide assembly 14 is seen as including a pair of slotted guide members 86 and 88 forming the card guide 20. The card guide 20 defines a generally linear card path and includes a forward end 90 and a rearward end 92. The guide members 86 and 88 are laterally joined together by a pair of forward and rearward cross bar members 94 and 96 of generally rectangular cross-section using conventional fasteners 97. More specifically, the guide members 86 and 88 each include cross bar mounting lugs 98 and 100 which extend downwardly from the guide slots and mount to the cross bar members 94 and 96. Extending forwardly from the rearward cross bar member 96 are a pair of read/write sensors 102 and 104 that are positioned to perform reading and encoding operations on the conventionally arranged magnetic stripes of the card 10. Although two read/write sensors are shown, most applications for cards having a single magnetic stripe would require only one sensor.

As shown in FIG. 7, the sensors 102 and 104 are mounted to the rear cross bar member 96 via a pair of spring mount assemblies 106 and 108 which are shown in greater detail in FIGS. 8 and 9. By way of example, the spring mount assembly 106 includes a support fitting 110 that is rearwardly mounted to the cross bar member 96. Cantilevered forwardly from the base of the fitting 110 is a spring system 112 made from spring steel or the like that attaches at its forward end to one or more head mounts 114 and one or more magnetic heads 116. Smooth upward and downward movement of the head mount(s) 114 is provided by one or more rollers 115 mounted on the support fitting 110. As shown in FIG. 9, the sensors 102 and 104 may include three separate magnetic heads 118, 120 and 122 that are biased by the cantilever springs 124, 126 and 126, respectively, toward the card guide 20 in an upward direction. Advantageously, the narrow central portion of the springs 124, 126 and 128 facilitates the gimballing of the heads 118, 120 and 122 in order to compensate for card warpage.

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Positioned between the sensors 102 and 104 is an idler wheel 130 supported on an idler arm 132 that is pivotally mounted to the rearward cross bar member 96, as shown in FIG. 7. This pivotal connection is provided by a pin 134 of conventional design, as shown in FIG. 6. Positioned below the idler arm 132 is an idler spring 136 that serves to bias the idler wheel 130 upwardly toward the card guide 20. The idler spring 136 is mounted to the cross bar member 96 using conventional fasteners 138 and a cover plate 139.

The card guide assembly 14 is provided with a card drive system that transports the card 10 while it is positioned in the card guide 20. Referring now to FIGS. 10 and 11, this drive system includes a drive roller 140 made from thin (low compliance) rubber and which is preferably the same or substantially the same width as the card 10. Optionally, the drive roller 140 may be provided with one or more character relief areas 141, for example 0.015 inch deep notches, to provide clearance in areas of the card 10 where embossed characters are found. The character relief areas 141 serve to eliminate jitter which might otherwise occur should the roller 140 contact the embossed characters. The drive roller 140 is mounted to the drive shaft of a stepper motor 142. The stepper motor 142 is in turn mounted to the chassis mounting plate 38 and its shaft extends through an aperture in an ear 144 (FIG. 6) of the guide member 88. The drive roller 140 is secured to the drive shaft of the motor 142 via a collar 145 of conventional design.

The card guide assembly 14 is further provided with a card guide positioning drive system that rotatably positions the card guide assembly for read/write operations. The card guide positioning drive system includes a stepper motor 146 that is mounted to the chassis mounting plate 36. The stepper motor 146 has a drive shaft that extends through an aperture in an ear 148 of the guide member 86, through a spacer 150, and into sliding engagement with the drive roller 140. The stepper motor 146 is rotatably engaged with the guide member 86 using conventional set screws to secure the guide member ear 148 to the stepper motor drive shaft. Other shaft engagement arrangements could also be used.

As the stepper motor 146 rotates, it causes the entire card guide assembly 14 to rotate with it about the common, mutually aligned axis defined by the two stepper motor shafts, which is the axis about which the drive roller 140 also rotates. This rotation is illustrated in FIGS. 2, 12 and 13. FIG. 2 illustrates a card access position wherein the guides 18 and 20 of the throat assembly 12 and card guide assembly 14 are in adjacent mutual alignment, and in alignment with the slot 8. This position allows the card 10 to be transferred between the throat and card guide assemblies. FIG. 12 illustrates a card read/encode position wherein the guide 20 of the card guide assembly is pivoted substantially out of alignment with the guide 18 of the throat assembly 12 and wherein card reading and/or encoding may be performed within a limited spatial envelope. In this rotation position, the stepper motor 142 can be activated to transport the card 10 past the sensors 102 and 104 as many times as desired to complete one or more read and/or write operations. FIG. 13 illustrates a card retention position in which the card is not returned to the customer and is retained for security purposes.

The card mechanism 2 is provided with appropriate control system components, described in more detail hereinafter, to direct the card mechanism through a

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complete card transaction sequence. In accordance with the control system provided, the card guide assembly is positioned during periods of quiescence in the manner shown in FIG. 12, such that the card gate 72 is closed and the card 10 cannot be inserted in the card guide assembly 14. When a card reading/encoding operation is desired, the user inserts the card 10 into the slot 8 and throat assembly guide 18 until the card gate sensor 56 senses flux transitions on the card. This results in an electrical signal being sent to the stepper motor 146, which causes the rotatable card guide assembly 14 to move into position to accept the card. As the card guide assembly 14 moves to the card transfer position, it engages and lifts the shutter 74, thereby allowing the card 10 to enter through the card gate 72 into the guide 20. If a foreign object (i.e., anything lacking an encoded magnetic stripe is inserted into the throat assembly 12, the shutter 74 remains in position to block its entry. Electronic control logic may be provided to ensure that, for example, five or more flux reversals of the proper form are sensed before the gate opening signal is sent to the stepper motor 146.

Simultaneously with the opening of the control gate 72, the card transport drive motor 142 is activated, awaiting the arrival of the card 10. As the user continues to push the card 10 into the card mechanism 2, the card enters the forward end 90 of the card guide 20. Shortly thereafter, the card 10 engages the rotating drive wheel 140 and is pulled between the drive wheel and the opposing idler wheel 130, and through the card guide 20 to its rearward end 92. When the trailing edge of the card 10 is sensed (preferably by a light emitting diode/photo collector pair, not shown), the card guide assembly stepper motor 146 is actuated to rotate the card guide assembly 14 to its read/encode position, thereby closing the control gate 72. As the card 10 passes the read/encode sensors 102 and 104, the sensors read the magnetic data encoded on the card tracks and store the data for transmission to a host computer. After the card 10 is read and its data is verified, the host computer can perform any number of desired transactions such as re-reading the card, writing new data to the card, capturing the card or returning it to its owner.

Card capture occurs when the host computer detects an abnormality in the transaction. For security reasons, the card guide drive motor 146 is activated to rotate the card guide assembly to the card retention position. In that position, the card guide 20 is preferably oriented vertically or near vertically. The card transport drive motor 142 is then activated and the card 10 is dispensed, with gravity assistance, from the forward end 90 of the guide 20 into a card retrieval bin (not shown).

To return the card 10 to its owner following a normal read/encode operation, the card transport drive motor 142 is activated with the card guide assembly in the position of FIG. 12, and the card 10 is directed to a card return area that is accessible to the user. Alternatively, the card guide assembly 14 may be returned to the position shown in FIG. 2 and the card 10 returned through the throat assembly 12.

In the above-described embodiment, both of the drive motors 142 and 146 are stepper motors. Advantageously, both motors are positioned so that their drive shafts are coaxial. This permits the use of other kinds of motors with minimal structural modification. For example, some card read/encode applications may require that a servo motor be used to transport the card 10 in the card guide assembly 14. Servo motors can accu-

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ately control the movement of the card 10 and thus may be required in applications where jitter must be held to an absolute minimum, for example, when it is desired to read the card's "magnetic signature" as a means of fraud prevention.

FIGS. 14-17 illustrate a second embodiment of the invention which is similar in virtually all respects to the embodiment described above except that a low cogging servo motor 160 is used as the card transport drive instead of the stepper motor 142. The servo motor 160 is mounted to the chassis mounting plate 38 so that its drive shaft is not coaxially aligned with that of the stepper motor 146 or the drive roller 140. Instead, the servo motor 160 connects to the drive roller 140 via a pulley 162 and belt 164 arrangement. The pulley 162 is mounted on the shaft supporting the drive roller 140. A tensioning roller 166 is provided to maintain proper torque on the drive roller 140. It is also desirable in this embodiment to provide a pair of card limiter springs 168 and 170. These are advantageous when a servo motor card transport drive is used to ensure that card movement is properly limited. Accordingly, the card mechanism 2 can be rapidly modified to accommodate either the stepper motor 142 or the servo motor 162 without affecting other components.

A third embodiment of the invention is shown in FIG. 18. In this embodiment, the card guide assembly drive motor 146 has been replaced with a solenoid 180 connected to a modified card guide assembly 172 via a linkage formed from the solenoid plunger 184, a link member 186, and a spring 188. This embodiment further illustrates that magnetic sensors 190 and 192 may be positioned above a card if desired.

It will be further appreciated that the card mechanism 2 could be easily adapted for micro chip cards. In that case, the mechanism would be augmented with contact sensors configured to electrically engage the card micro chip to establish communication between the micro chip and a host computer. Although contact sensors could be positioned in many locations in order to read a micro chip card, one approach would be to place a micro chip contact sensor unit 194 on one of the card limiter springs 168 or 170, as shown in FIGS. 14 and 16. The contact sensor unit 194 would include one or more spring loaded contact sensors 196 (typically eight) that engage corresponding contact points on the micro chip card. It will be appreciated that the card limiter springs 168 and/or 170 could also be used in the card mechanism of FIG. 2, having a stepper motor drive.

Referring now to FIG. 19, a control system for directing the operation of the card mechanism 2 is shown as including a local processor controller 200 which may include any number of conventionally available microprocessor devices having data input and output capability, a clock signal generator, appropriate logic circuitry, and a programmable central processing unit. The local processor 200 receives data input from the sensors 102 and/or 104 in a read mode via an amplifier and accumulator unit 202, an integrator/differentiator/adder unit 204, and a zero-crossing detector unit 206, all of conventional design. The local microprocessor controller 200 writes data to the sensors 102 and/or 104 via a conventional write drive unit 208. When a servo motor is used to transport a card in the card guide assembly 14, appropriate clock, power and directional control signals are provided to the servo motor 160 via a microprocessor motor controller unit 210 of conventional

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design, with appropriate motor speed feedback information being directed to the microprocessor motor controller 210 via a tachometer 212. Control of the stepper motors 142 and 146 is provided by appropriate clock, power and control signals generated by the local microprocessor controller 200 via a conventional motor driver unit 214. The local microprocessor controller 200 also receives inputs from one or more LED/PD devices 216 and 218 which, as described above, can be used to monitor the passage of the card 10 through various portions of the guides 18 and 20. Output from the local microprocessor controller is directed to a host computer via an interface bus (not shown) capable of carrying control signals and data that is read from and written to the card 10.

Accordingly, a novel magnetic stripe and/or micro chip card motorized reader/encoder mechanism has been described. The card mechanism has the advantages of low cost, small size, high reliability, low maintenance and ease of configuration conversion for special applications. With respect to sizing, it is submitted that the envelope volume of the card mechanism can be reduced from approximately 98 cubic inches, as found in prior art devices, to about 50 cubic inches or less. More importantly, the forward/rearward depth can be reduced from approximately 7.5 inches, as found in the prior art, to less than about 4.5 inches. The prior art use of optical and magnetic encoders has been eliminated and there is but one drive station which effectively overcomes the jitter problem found in prior art designs.

The following considerations illustrate the magnitude of the jitter problem. ANSI and ISO require that jitter in a 75 bpi track be less than five percent of the distance between two adjacent flux reversals which are separated by a nominal distance of $1/150 = 0.00066$ inch. In a 210 bpi track, nine percent of $1/420 = 0.00238$ inch is allowed. Five percent of 0.00066 is 333 micro inch; nine percent of 0.00238 is 214 micro inch. To achieve these jitter values with reliability, a product designer should aim for a two percent inherent jitter contribution from the drive system—electronic noise and card defects should be included in the jitter budget. This means that the drive system must contribute no more 86 micro inches to jitter.

To provide uniform velocity during the write operations, the drive systems described above can be provided with an advantageous combination of features. The card can be driven directly by a stepper motor through a drive roller which has a thin (low compliance) rubber face, i.e., no belts or gears. Alternatively, the stepper motor can be replaced with a low cogging servo motor for even greater control. Advantageously, card drive stepper motors are available having over 22 oz-in of potential driving torque against an estimated nominal frictional torque of 3.3 oz-in induced principally by the head-media contact. The head assembly can be provided with three heads, each individually mounted on its own spring and constrained to move perpendicularly to the card face without rotation about the gap line. Thus, the frictional force will remain constant independent of warpage in the card. By the use of a single drive roller station, a single head station, and a rotatable card holder guide, the card can be transported uniformly without acceleration during the write operation, i.e., the card does not come in contact with any objects such as additional heads or rollers that would disrupt its motion. Uniform angular velocity of the stepper motor can be achieved by driving it with sine

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waves of equal amplitude, having a phase difference of 90 degrees.

While various embodiments of a magnetic stripe and/or micro chip card motorized reader/encoder mechanism have been disclosed, it should be apparent that many variations and alternative embodiments will occur to those skilled in the art in view of the teachings herein. It is understood, therefore, that the invention is not to be in any way limited except in accordance with the spirit of the appended claims and their equivalents.

We claim:

1. A magnetic stripe and/or micro chip card motorized reader/encoder mechanism, comprising:
 - a support chassis;
 - a card guide assembly rotatably mounted on said support chassis;
 - a throat assembly positioned adjacent said card guide assembly for receiving a card and directing it toward said card guide assembly;
 - a first drive system operatively connected to rotate said card guide assembly relative to said support chassis between a card access position and a card read/encode position;
 - a second drive system operatively connected to transport a card in said card guide assembly; and
 - a reader and/or encoder sensor positioned for reading and/or encoding a card in said card guide assembly.
2. The card mechanism of claim 1 wherein said reading and/or encoding sensor includes a magnetic stripe sensor.
3. The card mechanism of claim 1 wherein said reading and/or encoding sensor includes a micro chip sensor.
4. The card mechanism of claim 1 wherein said card guide assembly defines a generally linear guide path having a first end and a second end.
5. The card mechanism of claim 1 wherein said first drive system and said second drive system include motors having drive shafts coupled with respect to a common axis of rotation.
6. The card mechanism of claim 1 wherein said first drive system and said second drive system include motors having drive shafts extending co-linearly with respect to one another.
7. The card mechanism of claim 1 wherein said first drive system includes a stepper motor.
8. The card mechanism of claim 1 wherein said first drive system includes a solenoid.
9. The card mechanism of claim 1 wherein said second drive system includes a servo motor.
10. The card mechanism of claim 1 wherein said second drive system includes a drive roller sized to engage substantially the entire width of a card in said card guide assembly.
11. The card mechanism of claim 1 wherein said second drive system includes a drive roller and an opposing idler wheel biased against said drive roller.
12. The card mechanism of claim 11 wherein said drive roller includes one or more character relief areas.
13. The card mechanism of claim 2 wherein said reading and/or encoding sensor further include a micro chip sensor.
14. The card mechanism of claim 13 wherein said magnetic stripe sensor and said micro chip sensor are positioned at different locations on said card mechanism.

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15. A motorized card reader/encoder mechanism, comprising:
 a moveable guide assembly having a card guide defining a generally linear card path for receiving and linearly transporting a card in said guide assembly;
 said guide assembly being moveable from a card transfer position wherein said guide assembly card guide is positioned to receive a card, to a card read/encode position; and
 a drive system for transporting a card in said guide assembly, and for moving said guide assembly between such transfer position and said read/encode position.
16. The card mechanism of claim 15 further including a sensor system for sensing a card in said guide assembly.
17. The card mechanism of claim 15 wherein said drive system includes a first drive for transporting a card in said guide assembly, and a second drive for moving said guide assembly.
18. The card mechanism of claim 17 wherein said first drive and said second drive have mutually aligned drive elements.
19. The card mechanism of claim 15 wherein said guide assembly and said drive system are further configured for movement of said guide assembly to a generally vertically oriented card retention position for directing a card to a card capture area.
20. A magnetic stripe and/or micro chip card motorized reader/encoder mechanism, comprising:
 a support chassis;
 a card guide assembly rotatably mounted on said support chassis, said card guide assembly defining a

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- generally linear guide path having a first end and a second end;
 a throat assembly positioned adjacent said card guide assembly for receiving a card and directing it toward said card guide assembly;
 a first drive system operatively connected to rotate said card guide assembly relative to said support chassis between a card access position, a card read/encode position and a card retention position;
 a second drive system operatively connected to transport a card in said card guide assembly, said second drive system including a drive roller and an opposing idler wheel biased against said drive roller, said drive roller being substantially as wide as a card in said card guide assembly;
 said first drive system and said second drive system including motors having drive shafts coupled with respect to a common axis of rotation;
 a reader and/or encoder sensor positioned for reading and/or encoding a card in said card guide assembly;
 an access control system positioned adjacent said card guide assembly for limiting access to said card guide assembly;
 said access control system including a gate assembly having a slidable shutter configured for engagement with said card guide assembly, and said card guide assembly being configured to open said gate assembly when in said card access position; and
 a card sensor positioned adjacent said card guide assembly for sensing the presence of a card approaching said card guide assembly, said card sensor including a sensor head and an opposing idler wheel biased against said sensor.

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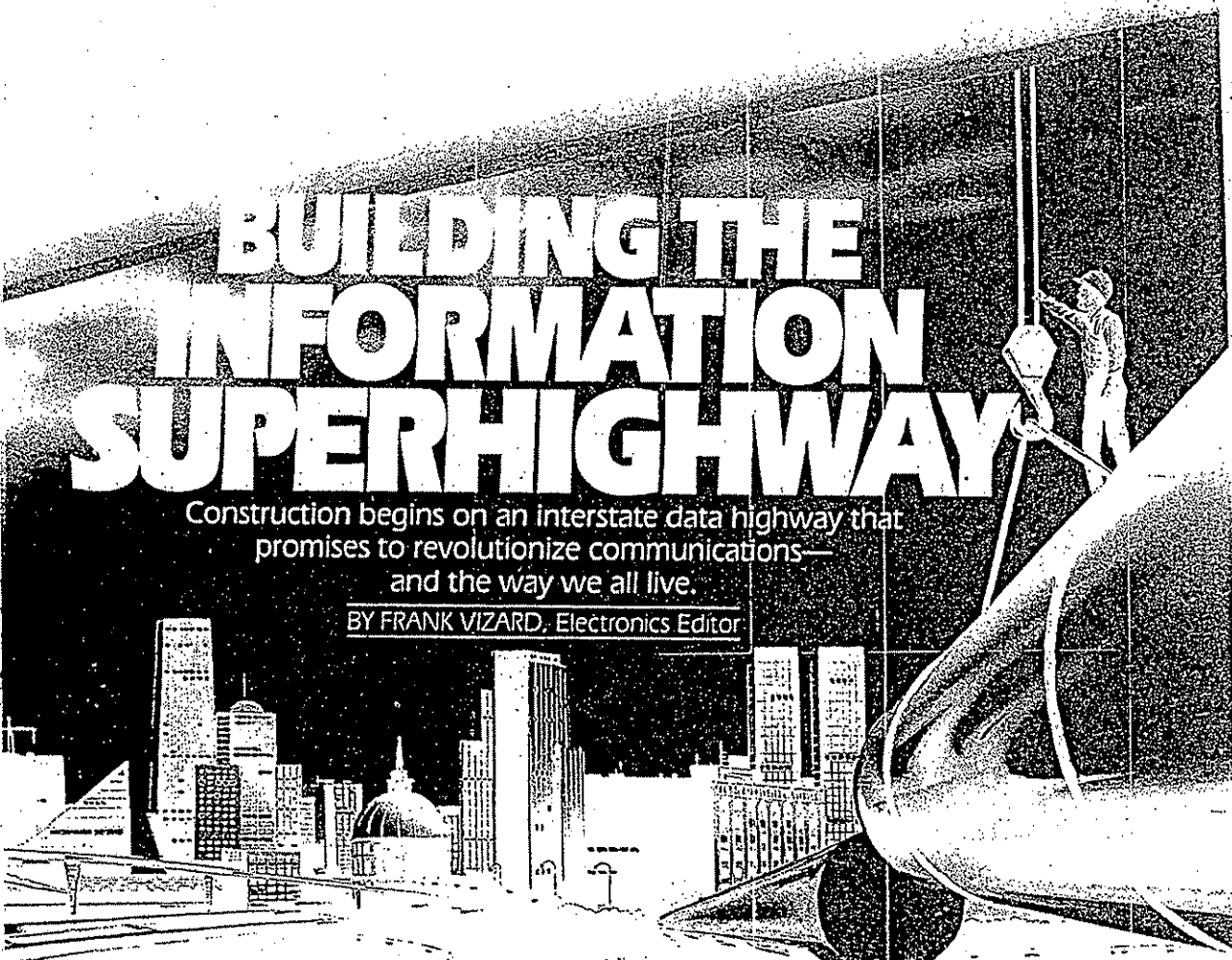
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BUILDING THE INFORMATION SUPERHIGHWAY

Construction begins on an interstate data highway that
promises to revolutionize communications—
and the way we all live.

BY FRANK VIZARD, Electronics Editor

● The next time you think about traveling down the highway looking for adventure you may just get all you can handle without leaving home.

The highway destined to see more traffic than any road ever built for cars is dedicated to transporting information. Like the interstate highway system that made vehicular traffic from coast to coast simple, the data highway—more formally called the National Information Infrastructure (NII)—will link homes, offices, factories, libraries, entertainment sources, universities and just about anyone else into one big network.

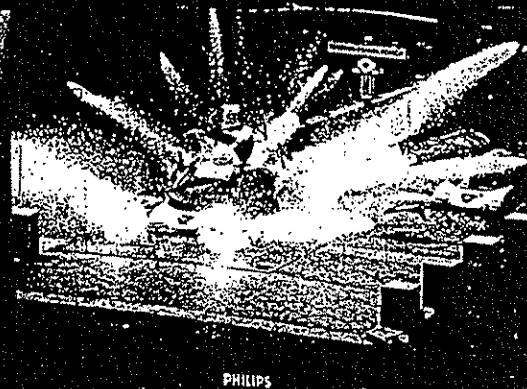
This is more than just cable TV on steroids. Think of it as a level of interactivity not seen since the invention of the telephone. Multimedia communication—image, sound and text combined—can happen in the blink of an eye.

A national data highway is a dream propagated by government and industry—not to mention science-fiction writers like William Gibson—for years. As envisioned, the NII would give you access to a world of information through a variety of devices—typically through personal communicators of the Apple Newton variety, personal

INFORMATION SUPERHIGHWAY

The Terminator

The cable TV terminal box of the near future will actually be a 386 or 486 computer and will look much like the Philips prototype pictured here. With this powerful set-top device, you'll be able to dial up movies like "Demolition Man" instantly. Or if you're watching a football game, this box will let you choose the camera angle you want. This box will also give you access to interactive videogames, home shopping and banking and a myriad of other services.



computers and televisions. Some of these devices may be combined in the future—think of a hybrid telecomputer, for example.

What type of information can you get? You can dial up movies on demand, play videogames with people across the nation, shop, take care of banking, make travel arrangements, tour the vaults of a museum, tap into any library or just chat.

The NII promises more than just a host of consumer conveniences. Since the data highway can handle voice, video and text simultaneously and with equal aplomb, the impact on business and health services alone stands to be substantial. Manufacturing specifications can be quickly transmitted in detail. Medical disorders can be diagnosed by specialists far away from the patient. And on the education front, students can receive lessons from the best teachers without regard to geography.

The dream is suddenly becoming a reality. The proposed merger between Bell Atlantic, one of the Baby Bell phone companies, and Telecommunications Inc. (TCI), the nation's largest cable TV operator, woke up the world to the fact that the data highway could exist in concrete terms. The merged companies have access to 22 million customers in 59 of the top-100 markets. The Bell Atlantic/TCI merger creates a pretty big highway just by itself.

The \$33 billion Bell Atlantic/TCI merger agreement suddenly made

many people realize that the data highway already exists to a large degree. Much of the technology needed to make it operable was in hand, or nearly so. The road would be fiberoptic cable, hair-like glass strands that carry data as light pulses and which have a much greater capacity than copper or coaxial wire. Today, fiberoptic cable is only being used to

The Bell Atlantic/TCI merger agreement made people realize that the data highway already exists to a large degree.

one-tenth of 1% of its capacity (a typical 32-strand fiberoptic bundle can handle up to 5000 video channels). Basically, all that is needed is a way to connect a lot of little networks to each other to form a larger network.

500 channels

For many, the entrance ramp onto the data highway probably will look much like the new Time Warner network set to debut next April in Orlando, Florida. Accessed via a set-top box, Time Warner's Full Service Network appears, at first glance, to be a pumped-up cable TV service. Indeed, you get 500 channels, but there is more to it than just that.

A big draw is video on demand.

Hundreds of movies are digitally stored on large computers called digital servers. Your movie selection travels via a variety of digital switches to what amounts to a 386 or 486 computer masquerading as a cable box sitting on top of your TV. These set-top devices will be made by various suppliers. For example, Silicon Graphics is making set-top devices for the Time Warner system, while 3DO is doing the same for a proposed US West interactive-TV trial in Omaha, Nebraska. Other potential suppliers include Philips and GTE, a company that is also engaged in a trial interactive-TV system in Cerritos, California.

The signal, being received via fiberoptic and coaxial cable, is digitally compressed so it occupies only a small fraction of the bandwidth available. With digital compression, eight to 10 video channels can be carried in the bandwidth normally required for one channel.

Of course, you can do more than just watch movies. Just imagine watching a sporting event, for example. Since the TV is now interactive, you'll be able to choose from which camera angle you want to watch the action.

You'll also be able to play videogames or engage in hobbies like rotisserie baseball with other people on the network. And since the network is 2-way, you can expect all kinds of control accessories to be available. This would include head-mounted displays (HMDs) or helmets for virtual-reality scenarios. Set-top boxes will likely come

A typical fiberoptic bundle might contain 32 hair-like glass strands. Data is carried as light pulses, which can travel for miles without amplification. Current capacity for a 32-strand bundle would be about 5000 video channels or 500,000 voice communications—all through a bundle measuring just 0.5 in. in diameter. Future advances in electronics will likely boost capacity to 1 million conversations per strand. Finding your way around, however, may be the biggest problem for travelers on the data highway. One proposal calls for software worms called Knowbots to act as information-retrieval agents. You wouldn't have to know where the data is—a Knowbot would just travel the data highway until it found the answer.

Of course, PCS would give you access to the data highway. This fact alone is likely to spur the development of many types of wireless devices that will be able to transmit everything from faxes to video. It is expected that PCS will be relatively inexpensive—certainly cheaper than cellular phone service—because the FCC is allocating a large amount of radio spectrum for the service and is allowing as many as seven competing service providers to exist per market.

While a fiberoptic connection to every home would be ideal, the complete rewiring of homes for fiberoptics will take many years. The last

The phone companies, meanwhile, are likely to be delivering video images via telephone lines in competition with cable TV companies. Until every home is wired with fiberoptic cable, the telephone companies are likely to use a new technology called an asymmetric digital subscriber line (ADSL) in the interim. ADSL allows the phone companies to send compressed video images over ordinary copper wires and still have room for



INFORMATION SUPERHIGHWAY



Digitizing Video

At MIT, researchers created a single image of musician Yo-Yo Ma (top segment, above) from other shots of different focal lengths using digital video technology. When digitized, video flows like a stream (right) that can be easily manipulated.

voice conversations. Fiberoptic cable would bring the signal to the last mile, after which ADSL technology, which tends to degrade over distance, would bring the signal home.

The fiberoptic cable, though, is essential for 2-way communication. With coaxial cable, the signal must be amplified every 2000 ft. In a 2-way coaxial connection the amount of electronic noise added by the amplifiers makes the signal unintelligible. With fiberoptic cable, the signal can travel for miles before needing a boost, a characteristic that keeps the signal quality very clean.

The phone companies are also looking at another technology that allows digital data to be sent over existing copper wires. Called the Integrated Services Digital Network (ISDN), this technology seems most suitable for voice and text applications. If upgraded, ISDN could prove to be a shortcut to the information highway.

On the net

All of these options are fine on the local level but how do you make the connection to larger networks that allow you to telecommute to the office or tap into Washington, D.C.'s Smithsonian Museum when you're in Des Moines?

The data highway model everyone is looking at is a confederation of computer networks called the Internet. Currently, the Internet is comprised of more than 10,000 networks—from universities, libraries, science foundations, government and businesses—that are all linked together.

Estimates as to the number of people using the Internet range to as high as 30 million. This number will

only get higher as this year Continental Cablevision Inc. provides special hookups that allow PCs to jack into the Internet via cable lines. This link allows users to download data at much faster rates since coaxial and fiberoptic lines are being used.

Internet users send electronic mail, chat with other Internet users on bulletin boards, play games or access about 2 million files on a variety of topics. In effect, the Internet is its own electronic community. More im-

The data highway model everyone is looking at is a confederation of computer networks called the Internet.

portantly—and this is an approach the federal government wants to take on the data highway—the Internet has an open architecture, meaning that it is available to all.

The Internet, however, illustrates one of the practical problems facing the data highway. The Internet is a notoriously difficult piece of cyberspace to navigate, and it is often very hard to find the information you're seeking. Software developers hope to make the information-retrieval process easier in the future. One concept involves software worms called Knowbots that crawl from source to source looking for the answers to questions. You wouldn't have to know where the information is—the worm

would just keep looking until it found the desired data. Traffic congestion, though, might turn out to be a major problem if too many worms are looking for information in the same place—another issue to be resolved.

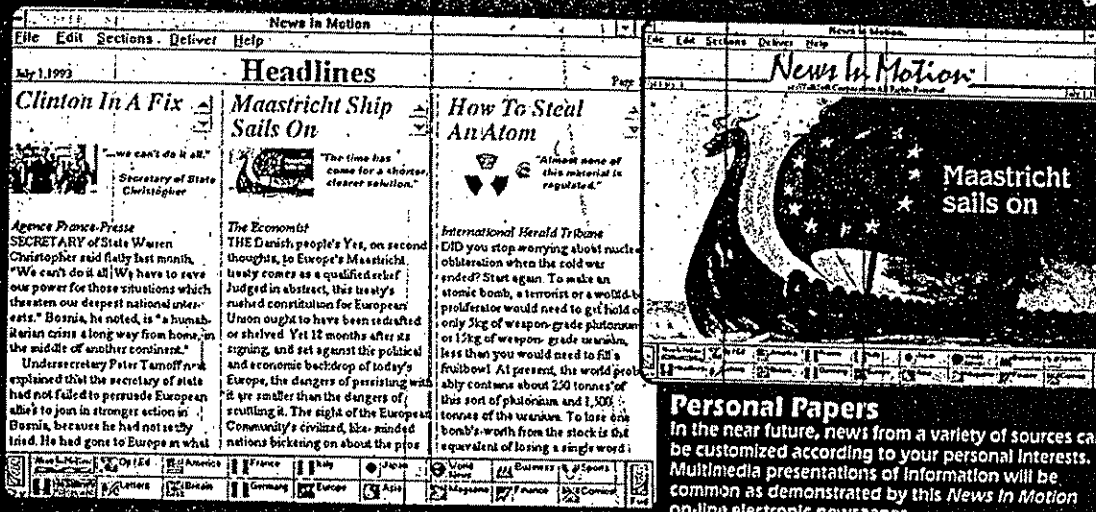
The Internet model, however, may not be the only one pursued, particularly in a short-term future devoid of standardized protocols. AT&T, for example, is investing heavily in the ImagiNation Network, formerly Sierra On-Line, in hopes of creating a nationwide network for videogame play. The network will allow players to compete against each other using Sega Genesis gear, an AT&T peripheral device called The Edge 16 and 3DO's interactive multiplayer. Once standardized protocols are developed, the ImagiNation Network would be just another lane on the information highway.

Besides information retrieval, there are other hurdles to jump, as well. One is to agree to a protocol standard that allows different networks to communicate easily with one another. And while numerous companies, ranging from General Magic to IBM, are vying to develop one, the Bell Atlantic/TCI merger may just create a de facto standard.

Smart TV

Perhaps the biggest leap forward will come when video can be transmitted digitally. Translated into zeros and ones like audio on a compact disc, video becomes easily manipulated and a whole range of options begins to appear. For instance, images of the same subject but shot at different focal lengths can be combined to produce a single image. Small details can be enlarged at will. This technology

WALTER BEYER & LAURA TEOCOSO, FODR ELLER, MIT ALUMNI LABORATORY PHOTOS



is just around the corner.

For example, digital video will be the cornerstone of a direct broadcast satellite (DBS) service being launched by Thomson Consumer Electronics (RCA's parent company) and Hughes Communications. Scheduled to debut this April, this DBS service will use digital video and compression technologies to offer 150 channels received in the home by an 18-in. dish for about \$700.

As envisioned by researchers at MIT's Media Lab and elsewhere, digital video will have many ramifications. But perhaps most importantly, it gives your television a chance to become intelligent.

In the near future, television will have the sort of learning capabilities exhibited now by products like Apple's Newton personal communicator. As you use the television, the TV's intelligence system will note the type of programming you enjoy. So instead of channel grazing through an impossible number of channels, the TV will present you with a list of programming choices based on your viewing history. The TV may also digitally store a program it thinks you might like even when you're not at home.

Viewers will also be able to customize their viewing—of news, for example. Since the news arrives in digital form, it is relatively easy for the TV to sort through the incoming digital video stream of channels and pull out items of specific interest to you.

Or conversely, if you're interested in news footage of civil unrest in China, for example, the TV will cruise through all the news channels, pulling out any snippets relating to China. These snippets would then be

assembled automatically so what you would see is one long piece of video footage on China. You no longer have to jump from news channel to news channel looking for that extra footage or different camera angle that is often critical to an understanding of events.

Customization could even extend to other types of news sources. For instance, you might subscribe to a variety of newspapers and magazines. Your television or your computer

The arrival of digital video technology gives your television a chance to become intelligent.

would know the type of information you are generally interested in. Articles from different sources would be blended together to create your personal newspaper that would be displayed on screen. You'd also be able to quickly print a hard copy of your newspaper—in color, of course, thanks to coming improvements in printer technology—or access your personal newspaper via a wireless computer or Newton-type personal communicator.

Such capabilities already exist, although the technology is still too expensive for mass use. Nevertheless, the Sandpoint Corp. of Cambridge, Massachusetts, has a software program called Hoover that sucks items

of specific interest to its subscribers out of 5200 publications. The system, which now costs about \$28,000, prepares reports that are continuously updated.

Electronic newspapers are also likely to use multimedia in their presentations of news. A hint of things to come is the *News In Motion* on-line newspaper available on a weekly basis from Walk Soft Corp. in Rochester, New York. *News In Motion* combines audio, still pictures, animation and text to present an array of news, opinion, entertainment and sports information. With the addition of digital video, live footage could easily be integrated into the mix. You would also be able to access your personal newspaper via a wireless computer or Newton-type personal communicator.

Watching all this is the federal government, mostly with a friendly eye, since Vice President Al Gore is a long-time proponent of the data highway. Indeed, someone will have to act as a data-wise state trooper to make sure commercial interests don't outweigh societal needs.

Corporate users, for instance, may be asked to pay a premium on video conferencing—money that would be allocated to install data highway terminals in the public libraries and schools of the inner city. The hope is that the federal government will take a leadership role in the creation of a common carrier channel easily accessed by all.

That role may be all the more important if, as Thomas Jefferson said, information is the currency of democracy. Thanks to the information highway, that currency is likely to get into more hands than ever.

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Information superhighway - Wikipedia, the free encyclopedia

Page 1 of 1

Information superhighway

From Wikipedia, the free encyclopedia
(Redirected from Information highway)

The **information highway** is a term used especially in the 1990s to describe the Internet. The official project was dubbed the National Information Infrastructure (NII) and went beyond the interconnectivity of just computers; the scope broadened to include all types of data transmissions between a plethora of places, people, and devices. It is often associated with the U.S. politician and former vice president, Al Gore, who promoted funding for programmes that led to aspects of the development of the Internet, although its currency was wider than merely Gore — many policy organisations made pronouncements about the so-called information highway or the variant **information superhighway**. Both terms are used less frequently now that for many people the Internet has become a less abstract and more concrete thing; the highway analogy, though useful and apt, has perhaps served its purpose.

It is used in early editions of *Wired Magazine* as well as *Popular Mechanics*.

Internet denizens sometimes use these terms in reference to the term's overuse by traditional popular media (and consequently by non-Internet-users) while the Internet was still becoming mainstream. Compare with the term Interweb. Many geeks often use it in a mocking tone, poking fun at the press for always being hopelessly behind in their description of technical matters.

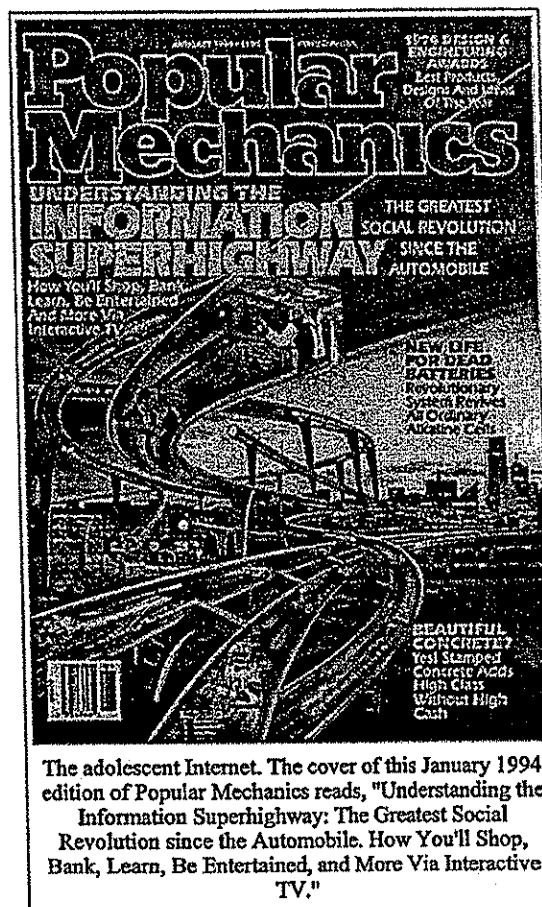
Video artist Paik Nam-june (1932–2006) coined the term in a paper written in 1974.

External links

- Besser, Howard, The Information SuperHighway: Social and Cultural Impact (<http://www.gseis.ucla.edu/~howard/Papers/brook-book.html>), 1995.
- Gore, Al, Information superhighway (<http://www.computerhope.com/jargon/i/infosupe.htm>), January 11, 1994.
- Kahl, Jeffery, Building and Rescuing the Information Superhighway (<http://www.lbl.gov/Science-Articles/Archive/information-superhighway.html>), 1993.

Retrieved from "http://en.wikipedia.org/wiki/Information_superhighway"

Categories: Computer stubs



The adolescent Internet. The cover of this January 1994 edition of *Popular Mechanics* reads, "Understanding the Information Superhighway: The Greatest Social Revolution since the Automobile. How You'll Shop, Bank, Learn, Be Entertained, and More Via Interactive TV."

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CIVIL COVER SHEET

JS-44 civil cover sheet and the information contained herein neither replace nor supplement the filing and service of pleadings or other papers as required by law, except as provided by the Rules of Civil Procedure. This form, approved by the Judicial Conference of the United States in September 1974, is required for the use of the Clerk of Court for the purpose of initiating the Civil Docket Sheet. (SEE INSTRUCTIONS ON THE REVERSE OF THIS FORM.)

(a) PLAINTIFFS

Transaction Holdings Ltd. L.L.C.

(b) COUNTY OF RESIDENCE OF FIRST LISTED PLAINTIFF

EXCEPT IN U.S. PLAINTIFF CASES)

Leatherhead, Surrey, England

(c) ATTORNEYS FIRM NAME, ADDRESS AND PHONE NO.

Connolly Bove Lodge & Hutz LLP, 1007 N. Orange Street, PO Box
2207, Wilmington, DE 19809, Arthur G. Connolly, III, Esq.
302) 658-9141

DEFENDANTS

IYG Holding Co., et al.

COUNTY OF RESIDENCE OF FIRST LISTED DEFENDANT

(IN U.S. PLAINTIFF CASES ONLY)

NOTE: IN LAND CONDEMNATION CASES, USE THE LOCATION OF THE TRACT OF LAND INVOLVED

ATTORNEYS (IF KNOWN)

C 6 - 4 3

II. BASIS OF JURISDICTION

(PLACE AN "X" IN ONE BOX ONLY)

- ☒ 1 U. S. Government Plaintiff ☒ 3 Federal Question (U. S. Government Not A Party)
- ☒ 2 U. S. Government Defendant ☐ Diversity (Indicate Citizenship of Parties in Item III)

III. CITIZENSHIP OF PRINCIPAL PARTIES

(PLACE AN "X" IN ONE BOX FOR PLAINTIFF AND ONE BOX FOR DEFENDANT)

- | | PTF | DEF | | PTF | DEF |
|---|----------------------------|----------------------------|---|----------------------------|----------------------------|
| Citizen of This State | <input type="checkbox"/> 1 | <input type="checkbox"/> 1 | Incorporated or Principal Place of Business in This State | <input type="checkbox"/> 4 | <input type="checkbox"/> 4 |
| Citizen of Another State | <input type="checkbox"/> 2 | <input type="checkbox"/> 2 | Incorporated and Principal Place of Business in Another State | <input type="checkbox"/> 5 | <input type="checkbox"/> 5 |
| Citizen or Subject of a Foreign Country | <input type="checkbox"/> 3 | <input type="checkbox"/> 3 | Foreign Nation | <input type="checkbox"/> 6 | <input type="checkbox"/> 6 |

IV. ORIGIN

(PLACE AN "X" IN ONE BOX ONLY)

- ☒ 1 Original Proceeding ☐ 2 Removed from State Court ☐ 3 Remanded from Appellate Court ☐ 4 Reinstated or Recaptured ☐ 5 Transferred from Another District (specify) ☐ 6 Multidistrict Litigation ☐ 7 Appeal to District Judge from Magistrate Judgment

V. NATURE OF SUIT (PLACE AN "X" IN ONE BOX ONLY)

CONTRACT	TORTS	PERSONAL INJURY	FORFEITURE/PENALTY	BANKRUPTCY	OTHER STATUTES
<input type="checkbox"/> 110 Insurance	<input type="checkbox"/> 310 Airplane	<input type="checkbox"/> 362 Personal Injury - Med. Malpractice	<input type="checkbox"/> 610 Agriculture	<input type="checkbox"/> 422 Appeal	<input type="checkbox"/> 400 State Reapportionment
<input type="checkbox"/> 120 Marine	<input type="checkbox"/> 315 Airplane Product Liability	<input type="checkbox"/> 365 Personal Injury - Product Liability	<input type="checkbox"/> 620 Other Food & Drug	<input type="checkbox"/> 443 Withdrawal 28 USC 157	<input type="checkbox"/> 410 Arbitration
<input type="checkbox"/> 140 Negotiable Instrument	<input type="checkbox"/> 320 Assault, Libel & Slander	<input type="checkbox"/> 368 Asbestos Personal Injury Product Liability	<input type="checkbox"/> 625 Drug Related Seizure of Property 21 USC 881	<input type="checkbox"/> 444 Trademark	<input type="checkbox"/> 430 Banks and Banking
<input type="checkbox"/> 150 Recovery of Overpayment & Contingency of Judgment	<input type="checkbox"/> 330 Federal Employers' Liability	<input type="checkbox"/> 370 Other Fraud	<input type="checkbox"/> 630 Labor Laws	<input type="checkbox"/> 445 Copyrights	<input type="checkbox"/> 450 Commerce/CC Rate/Act
<input type="checkbox"/> 151 Medicare Act	<input type="checkbox"/> 340 Marine	<input type="checkbox"/> 371 Truth in Lending	<input type="checkbox"/> 640 R.R. & Truck	<input type="checkbox"/> 446 Patent	<input type="checkbox"/> 460 Deportation
<input type="checkbox"/> 152 Recovery of Defaulted Student Loans (Excl. Veterans)	<input type="checkbox"/> 345 Marine Product Liability	<input type="checkbox"/> 380 Other Personal Property Damage	<input type="checkbox"/> 650 Airline Regs.	<input type="checkbox"/> 447 Selective Service	<input type="checkbox"/> 470 Releasee Influenced and Coerce Organizations
<input type="checkbox"/> 153 Recovery of Overpayment of Veterans Benefits	<input type="checkbox"/> 350 Motor Vehicle	<input type="checkbox"/> 385 Other Personal Property Damage	<input type="checkbox"/> 660 Occupational Safety/Health	<input type="checkbox"/> 448 Exchange	<input type="checkbox"/> 480 Freedom of Information Act
<input type="checkbox"/> 160 Stockholders' Suits	<input type="checkbox"/> 355 Motor Vehicle Product Liability	<input type="checkbox"/> 390 Other Personal Injury	<input type="checkbox"/> 690 Other	<input type="checkbox"/> 449 Customer Challenge to USC 3410	<input type="checkbox"/> 490 Agricultural Acts
<input checked="" type="checkbox"/> 190 Other Contract	<input type="checkbox"/> 360 Other Personal Injury	<input type="checkbox"/> 400 Other Personal Injury	<input type="checkbox"/> 700 Fair Labor Standards Act	<input type="checkbox"/> 450 Economic Stabilization Act	<input type="checkbox"/> 500 Environmental Matters
<input type="checkbox"/> 193 Contract Product Liability	<input type="checkbox"/> 410 Voting	<input type="checkbox"/> 410 Motions to Vacate Sentence	<input type="checkbox"/> 720 Labor/Mgmt. Relations	<input type="checkbox"/> 501 Environmental Matters	<input type="checkbox"/> 502 Freedom of Information Act
REAL PROPERTY	<input type="checkbox"/> 412 Employment	<input type="checkbox"/> 412 Habeas Corpus	<input type="checkbox"/> 730 Labor/Mgmt. Reporting & Disclosure Act	<input type="checkbox"/> 503 Freedom of Information Act	<input type="checkbox"/> 504 Appeal of Fee Determination Under Equal Access to Justice
<input type="checkbox"/> 210 Land Condemnation	<input type="checkbox"/> 443 Housing/Accommodations	<input type="checkbox"/> 413 Death Penalty	<input type="checkbox"/> 740 Railway Labor Act	<input type="checkbox"/> 505 Federal Tax Suits	<input type="checkbox"/> 506 Constitutionality of State Statutes
<input type="checkbox"/> 220 Foreclosure	<input type="checkbox"/> 444 Welfare	<input type="checkbox"/> 414 Merit/Other	<input type="checkbox"/> 750 Other Labor Legislation	<input type="checkbox"/> 507 IRS - Third Party	<input type="checkbox"/> 508 Other Statutory Actions
<input type="checkbox"/> 230 Rent Lease & Ejectment	<input type="checkbox"/> 445 Other Civil Rights	<input type="checkbox"/> 415 Other	<input type="checkbox"/> 791 Empl. Ret. Inc. Security Act		
<input type="checkbox"/> 240 Torts to Land					
<input type="checkbox"/> 245 Tort Product Liability					
<input type="checkbox"/> 250 All Other Real Property					

VI. CAUSE OF ACTION

(CITE THE U.S. CIVIL STATUTE UNDER WHICH YOU ARE FILING AND WRITE A BRIEF STATEMENT OF CAUSE. DO NOT CITE JURISDICTIONAL STATUTES UNLESS DIVERSITY) 35 U.S.C. § 1 et seq.

VII. REQUESTED IN COMPLAINT:

DEMAND \$ Damages and injunctive relief

CHECK YES only if demanded in complaint:

CHECK IF THIS IS A CLASS ACTION
UNDER F.R.C.P. 23

JURY DEMAND: ☒ YES ☐ NO

VIII. RELATED CASE(S) IF ANY (See Instructions)

DATE January 23, 2006

SIGNATURE OF ATTORNEY OF RECORD

Arthur J. Connolly III

(#2667)

FOR OFFICE USE ONLY

RECEIPT # AMOUNT APPLYING IF JUDGE MAG. JUDGE

UNITED STATES DISTRICT COURT
DISTRICT OF DELAWARE

TRANSACTION HOLDINGS LTD. L.L.C.,

Plaintiff,

v.

IYG HOLDING CO., 7-ELEVEN, INC., VCOM
FINANCIAL SERVICES, INC.,

Defendants.

Civil Action No. 06 - 43 -
JURY TRIAL DEMANDED
X

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Transaction Holdings Ltd. L.L.C. (hereinafter "Transaction Holdings"), a limited liability company organized and existing under the laws of the State of Delaware, having its principal place of business at Trolley Square, Suite 26C, Wilmington, DE 19806, for its complaint, hereby alleges as follows:

NATURE OF THE SUIT

This is a suit against defendants for violation of United States Patent Laws, 35 U.S.C. § 1 *et seq.*, by selling products and providing services that infringe one or more of the claims of plaintiff's United States Patent No. 6,945,457.

THE PARTIES

1. Defendant IYG Holding Co. (hereinafter "IYG"), is a corporation organized and existing under the laws of the State of Delaware, having its principal place of business at 2711 N. Haskell Avenue, Dallas, Texas.

2. Defendant 7-Eleven, Inc. (hereinafter "7-Eleven"), is a corporation organized and existing under the laws of the State of Texas, having its principal place of business at 2711 N. Haskell Avenue, Dallas, Texas.

3. Defendant Vcom Financial Services, Inc. (hereinafter "Vcom Financial"), is a corporation organized and existing under the laws of the State of Texas, having its principal place of business at 2711 N. Haskell Avenue, Dallas, Texas.

4. Defendants 7-Eleven, Vcom Financial and IYG are hereinafter collectively referred to as "7-Eleven."

5. Upon information and belief, 7-Eleven and Vcom are subsidiaries of or substantially owned by IYG.

JURISDICTION AND VENUE

6. This action is for patent infringement arising under the patent laws of the United States, 35 U.S.C. §§ 1 *et seq.* Subject matter jurisdiction is conferred upon this Court under 28 U.S.C. § 1338(a).

7. 7-Eleven is engaged in the marketing and sale of products and services throughout the United States.

8. Venue is proper in this judicial district under 28 U.S.C. §§ 1391(b), 1391(c), and 1400(b).

9. Personal jurisdiction over defendants is proper as 7-Eleven does business in this district, has substantial contacts with this district, and is committing and contributing to the acts of patent infringement alleged in this Complaint in this district.

FIRST CLAIM FOR RELIEF

Patent Infringement

10. On September 20, 2005, United States Patent No. 6,945,457 (the '457 patent), entitled "Automated Transaction Machine," was duly and lawfully issued based upon an application filed by the inventor, David M. Barcelou. (A true and correct copy of the '457 patent

is attached hereto as Exhibit A. A certification of correction filed with the United States Patent and Trademark Office is appended thereto.)

11. Transaction Holdings is the owner by assignment of all rights to the '457 patent, and has the right to sue and recover damages for infringement thereof.

12. 7-Eleven has directly and/or contributorily infringed, and/or induced infringement of, and is continuing to directly and/or contributorily infringe, and/or induce infringement of, the '457 patent, by selling and offering to sell products and services within the scope of one or more claims of the '457 patent, including without limitation, providing retail transactions to consumers through 7-Eleven Vcom automated teller machines.

13. The acts of infringement of 7-Eleven have occurred with knowledge of the '457 patent and are willful and deliberate. This action, therefore, is "exceptional" within the meaning of 35 U.S.C. § 285.

14. Transaction Holdings has been damaged by the infringement of 7-Eleven and is suffering, and will continue to suffer, irreparable harm and damage as a result of this infringement, unless such infringement is enjoined by this Court.

15. Transaction Holdings has no adequate remedy at law.

WHEREFORE, Transaction Holdings demands judgment as follows:

A. An order adjudging 7-Eleven to have infringed the '457 patent.

B. A permanent injunction enjoining 7-Eleven, together with their officers, agents, servants, employees, and attorneys, and all persons in active concert or participation with any of them who receive actual notice of the order by personal service or otherwise, from infringing the '457 patent.

C. An award of damages adequate to compensate Transaction Holdings for the infringement of 7-Eleven, along with prejudgment and postjudgment interest, but in no event less than a reasonable royalty.

D. An order requiring 7-Eleven to pay treble the amount of compensatory damages pursuant to the provisions of 35 U.S.C. § 284.

E. An award of Transaction Holdings' reasonable attorney fees and expenses, pursuant to the provisions of 35 U.S.C. § 285.

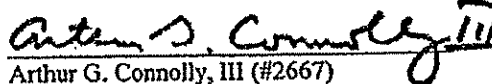
F. An award of Transaction Holdings' costs.

G. Such other and further relief as this Court may deem just and proper.

DEMAND FOR JURY TRIAL

Pursuant to Fed. R. Civ. P. 38(b), plaintiffs hereby demand a trial by a jury of twelve persons on all issues so triable herein.

CONNOLLY BOVE LODGE & HUTZ LLP



Arthur G. Connolly, III (#2667)

James M. Lennon (#4570)

The Nemours Building

1007 North Orange Street

Wilmington, DE 19801

Tel: 302.658.9141

Attorneys for Plaintiff

Transaction Holdings Ltd. L.L.C.

OF COUNSEL:

Joseph S. Littenberg

Stephen F. Roth

Kevin M. Kocun

LERNER, DAVID, LITTENBERG,

KRUMHOLZ & MENTLIK, LLP

600 South Avenue West

Westfield, NJ 07090-1497

Tel: 908.654.5000

Dated: January 23, 2006

EXHIBIT 2



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS

DOUGLAS S. FOOTE NCR CORPORATION
1700 S. PATTERSON BLVD. WHQ5
WHO-5E
DAYTON, OH 45479

RECEIVED

1/4/07

JAN 8 2007

LAW DEPARTMENT

EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM

REEXAMINATION CONTROL NO 90/008323

PATENT NO. 6,945,457

ART UNI 3992

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified ex parte reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the ex parte reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

DO NOT USE IN PALM PRINTER

(THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS)

Douglas S. Foote
NCR CORPORATION
1700 S. Patterson Blvd. WHQ5E
WHO-5E
Dayton, OH 45479

EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM

REEXAMINATION CONTROL NO. 90/008,323.

PATENT NO. 6945457.

ART UNIT 3992.

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified *ex parte* reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the *ex parte* reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

mal

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/008,323	11/07/2006	6945457		4616

530 7590 01/04/2007

LERNER, DAVID, LITTENBERG,
 KRUMHOLZ & MENTLIK
 600 SOUTH AVENUE WEST
 WESTFIELD, NJ 07090

EXAMINER

Joseph R. Pokrzywa

ART UNIT

PAPER NUMBER

3992

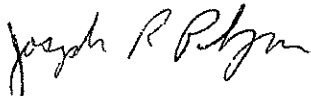
IFW

DATE MAILED: 01/04/2007

Please find below and/or attached an Office communication concerning this application or proceeding.

Ex Parte Reexamination Communication	Control No. 90/008,323	Patent Under Reexamination 6945457	
	Examiner Joseph R. Pokrzywa	Art Unit 3992	

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS ACTION IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS LETTER. EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.550(c). If the specified period for response is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.


Joseph R. Pokrzywa
Primary Examiner
Art Unit: 3992

cc: Requester (if third party requester)

Order Granting / Denying Request For Ex Parte Reexamination	Control No. 90/008,323	Patent Under Reexamination 6945457	
	Examiner Joseph R. Pokrzywa	Art Unit 3992	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

The request for *ex parte* reexamination filed 07 November 2006 has been considered and a determination has been made. An identification of the claims, the references relied upon, and the rationale supporting the determination are attached.

Attachments: a) ☐ PTO-892, b) ☐ PTO/SB/08, c) ☒ Other: PTO-1449

1. ☒ The request for *ex parte* reexamination is GRANTED.

RESPONSE TIMES ARE SET AS FOLLOWS:

For Patent Owner's Statement (Optional): TWO MONTHS from the mailing date of this communication (37 CFR 1.530 (b)). **EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.550(c).**

For Requester's Reply (optional): TWO MONTHS from the **date of service** of any timely filed Patent Owner's Statement (37 CFR 1.535). **NO EXTENSION OF THIS TIME PERIOD IS PERMITTED.** If Patent Owner does not file a timely statement under 37 CFR 1.530(b), then no reply by requester is permitted.

2. ☐ The request for *ex parte* reexamination is DENIED.

This decision is not appealable (35 U.S.C. 303(c)). Requester may seek review by petition to the Commissioner under 37 CFR 1.181 within ONE MONTH from the mailing date of this communication (37 CFR 1.515(c)). **EXTENSION OF TIME TO FILE SUCH A PETITION UNDER 37 CFR 1.181 ARE AVAILABLE ONLY BY PETITION TO SUSPEND OR WAIVE THE REGULATIONS UNDER 37 CFR 1.183.**

In due course, a refund under 37 CFR 1.26 (c) will be made to requester:

- a) ☐ by Treasury check or,
b) ☐ by credit to Deposit Account No. _____, or
c) ☐ by credit to a credit card account, unless otherwise notified (35 U.S.C. 303(c)).



Joseph R. Pokrzywa
Primary Examiner
Art Unit: 3992

cc: Requester (if third party requester)

Application/Control Number: 90/008,323
Art Unit: 3992

Page 2

DETAILED ACTION

Response to Request for *ex parte* Reexamination

1. Reexamination has been requested for claims 1-3, 5, 9, 10, and 14 of U.S. Patent Number 6,945,457 ('457 Patent).
2. A substantial new question of patentability affecting claims 1-3, 5, 9, 10, and 14 of United States Patent Number 6,945,457 is raised by the request for *ex parte* reexamination.
3. A prior art patent or printed publication raises a substantial new question of patentability where there is:
 - (A) a substantial likelihood that a reasonable Examiner would consider the prior art patent or printed publication important in deciding whether or not the claim is patentable, MPEP §2242 (I) and,
 - (B) the same question of patentability as to the claim has not been decided in a previous or pending proceeding or in a final holding of invalidity by a federal court. See MPEP §2242 (III).

Application/Control Number: 90/008,323
Art Unit: 3992

Page 3

4. The '457 Patent is currently assigned to:

Transaction Holdings LTD., L.L.C.

Trolley Square, Suite 26C

Wilmington, Delaware 19806

5. The '457 Patent application issued on Sep. 20, 2005, being filed as a national stage 371 application on Nov. 6, 1998 of PCT/US97/08089, having a filing date of May 9, 1997, published as WO97/45796 on Dec. 4, 1997, having priority to U.S. Provisional Application 60/017,533, filed on May 10, 1996.

6. The '457 Patent is the subject of the litigation *Transaction Holding Ltd., L.L.C. v. IYG Holding Co. et al.*, No. C.A. No. 06-43 (SLR), Federal District Court for the District of Delaware.

Discussion of References

7. In the request for reexamination, the third party requester alleges that the '457 Patent **claims 1-3, 5, 9, 10, and 14** are anticipated or rendered obvious in light of the following references:

- a. "The Virtual ATM: Beyond the Current System", authored by Alex Subrizi and William Hull Faust, *Bank Marketing*, November 1994, pages 17-20 (hereafter "Subrizi")
- b. U.S. Patent No. 5,397,886, issued to Mos *et al.* (hereafter "Mos")

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- c. "Building the Superhighway", authored by Frank Vizard, *Popular Mechanics*, January 1994, pages 29-33
 - d. Wikipedia entry for "Information Superhighway"
8. The aforementioned newly cited references are not of record in the file of the '457 Patent and are not cumulative to the art of record in the original file.
9. It is agreed that the reference of Subrizi would have been considered important by a reasonable examiner in deciding whether or not at least independent **claim 1** was patentable, for the reasons discussed *infra*.

Specifically, regarding **claim 1**, as additionally discussed by the third party requester, Subrizi describes an integrated banking and transaction apparatus for use by a consumer [see pages 17-20], comprising

an automated teller machine [being the "SmartCard ATM" discussed on pages 18-20];
and

means for providing a retail transaction to the consumer through an Internet interface to the automated teller machine [see page 19, col. 2, being the Virtual Interface, which is described as "branded virtual banking space"; also see page 20, cols. 1 and 2, wherein "the idea of a branded virtual banking space that can be accessed from a variety of information 'ports' recasts the traditional ATM as just one public-access window into a ubiquitous financial network, an endless lattice of financial and other services that will eventually be part of the information

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superhighway”, and wherein “The ‘personal banking space’ metaphor could be extended to support other nontraditional activities such as bill payment, purchase of airline tickets, travel reservations, and brokerage transactions”].

10. Similarly, as outlined by the third party requester, each of the limitations of independent claim 9, being “a method” having a similar process as discussed above with respect to the apparatus of claim 1, can also be interpreted as being taught by Subrizi. Thus, while not fully being discussed herein, the examiner agrees with the analysis of the third party requestor regarding Subrizi with respect to independent claim 9. Therefore, the reference of Nishikawa raises a significant question of patentability regarding both claims 1 and 9. Continuing, the references of “Building the Superhighway”, authored by Frank Vizard, and the Wikipedia entry for “Information Superhighway”, both demonstrate that the term “Information Superhighway” was synonymous and known at the time the invention as the Internet. Further, the reference of “Mos” teaches of a system that utilizes a smartcard reader/encoder, as required in claim 2, and a magnetic stripe card reader/encoders, as required in dependent claims 3 and 10, whereby as discussed by the third party requester, Mos teaches on col. 1, lines 11-18 that “Automated teller machines (ATMs), gasoline pump stations and other apparatus designed to operate with magnetic stripe and/or micro chip cards utilize card handling mechanisms in order to perform data read/write operations. The majority of motorized card reader/encoders available today are similar in design and appear to be based on an original ATM design...”

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11. These references would likely have been important to a reasonable examiner in deciding whether or not the claims were patentable. The above discussed teachings were not present during the prosecution of the application which became the '457 Patent. Thus, the references raise a substantial new question regarding independent claims 1 and 9 of the instant '457 Patent.

Conclusion

12. **Claims 1-3, 5, 9, 10, and 14** for U.S. Patent Number 6,945,457 are subject to reexamination.

13. Since requester did not request reexamination of **claims 4, 6-8, 11-13, and 15-37**, and did not assert the existence of a substantial new question of patentability (SNQ) for such claims (see 35 U.S.C. § 302); see also 37 CFR 1.510b and 1.515), such claims will not be reexamined. This matter was squarely addressed in *Sony Computer Entertainment America Inc. et al. v. Jon W. Dudas*, Civil Action No. 1:05CV1447 (E.D.Va. May 22, 2006), Slip Copy, 2006 WL 1472462. The District Court upheld the Office's discretion to not reexamine claims in a reexamination proceeding other than those claims for which reexamination had specifically been requested.

The Court stated:

"To be sure, a party may seek, and the PTO may grant, ...review of each and every claim of a patent. Moreover, while the PTO in its discretion may review claims for which ...review was not requested, nothing in the statute compels it to do so. To ensure that the PTO considers a claim for ...review, ... requires that the party seeking reexamination demonstrate why the PTO should reexamine each and every claim for which it seeks review. Here, it is undisputed that **Sony** did not seek review of every claim under the '213 and '333 patents. Accordingly, **Sony** cannot now claim that the PTO wrongly failed to reexamine claims for which **Sony** never requested review, and its argument that AIPA compels a contrary result is unpersuasive."

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14. Extensions of time under 37 CFR 1.136(a) will not be permitted in these proceedings because the provisions of 37 CFR 1.136 apply only to "an applicant" and not to parties in a reexamination proceeding. Additionally, 35 U.S.C. 305 requires that *ex parte* reexamination proceedings "will be conducted with special dispatch" (37 CFR 1.550(a)). Extensions of time in *ex parte* reexamination proceedings are provided for in 37 CFR 1.550(c).

15. The patent owner is reminded of the continuing responsibility under 37 CFR 1.565(a) to apprise the Office of any litigation activity, or other prior or concurrent proceeding, involving Patent No. 6,945,457 throughout the course of this reexamination proceeding. The third party requester is also reminded of the ability to similarly apprise the Office of any such activity or proceeding throughout the course of this reexamination proceeding. See MPEP §§ 2207, 2282 and 2286.

Application/Control Number: 90/008,323
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Page 8

16. ALL correspondence relating to this ex parte reexamination proceeding should be directed as follows:

Please mail any communications to:

Attn: Mail Stop "Ex Parte Reexam"
Central Reexamination Unit
Commissioner for Patents
P. O. Box 1450
Alexandria VA 22313-1450

Please FAX any communications to:

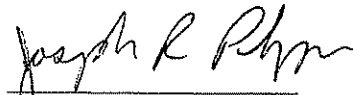
(571) 273-9900
Central Reexamination Unit

Please hand-deliver any communications to:

Customer Service Window
Attn: Central Reexamination Unit
Randolph Building, Lobby Level
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Reexamination Legal Advisor or Examiner, or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272-7705.

Signed:


JOSEPH R. POKRZYWA
PRIMARY EXAMINER
Joseph R. Pokrzywa
Central Reexamination Unit 3992
(571) 272-7410

Conferees :




ROLANDO G. FOSTER
C/O EXAMINER-AU 3992

PTO/SB/08B (09-06)

Approved for use through 03/31/2007. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)		Application Number	
		Filing Date	
		First Named Inventor	Barcelou
		Art Unit	
		Examiner Name	
Sheet 1	of 1	Attorney Docket Number	

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
J.P.		Subrizi et al., "The Virtual ATM" by ALEX SUBRIZI, et al. Bank Marketing (November, 1994) pages 17-20	
J.P.		Vizard, "Building The Information Superhighway" by FRANK VIZARD Popular Mechanics (January, 1994) pages 29-33	
J.P.		Wikipedia entry for "Information Superhighway"	

Examiner Signature	<i>Joseph R. Rhym</i>	Date Considered	12/28/06
-----------------------	-----------------------	--------------------	----------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

EXHIBIT 3

Lobenfeld, Eric J.

From: Lobenfeld, Eric J.
Sent: Wednesday, January 10, 2007 8:14 AM
To: Gerard P. Norton (gnorton@foxrothschild.com); gwilliams@foxrothschild.com
Cc: Horwitz, Richard L.; 'Moore, David E.'; Lobenfeld, Eric J.
Subject: THL v. 7-Eleven - Reexamination
Attachments: 0018_001.pdf

Gerry - When we first spoke about this case, I told you that NCR had filed an ex parte petition for reexamination of certain claims of the patent-in-suit. I told you then that if review were granted, defendants would seek to stay the case pending the outcome of the reexamination. As you will see from the attached (and as you may already have learned from the folks at Lerner David), the PTO has determined that the prior art cited by NCR in its petition, none of which was of record during prosecution of the patent, does raise a substantial new question of patentability. We therefore intend to move to stay, and seek your consent to that motion pursuant to Local Rule 7.1.1. We intend to make the motion promptly, so please advise at your earliest convenience. Thanks.

ERIC J. LOBENFELD, PARTNER
HOGAN & HARTSON LLP
875 Third Avenue, New York, NY 10022
direct +1.212.918.8202 | tel +1.212.918.3000 | fax +1.212.918.3100
ejlobenfeld@hhlaw.com | <http://www.hhlaw.com>

1/25/2007

EXHIBIT 4

Lobenfeld, Eric J.

From: Norton, Gerard P. [GNorton@foxrothschild.com]
Sent: Thursday, January 11, 2007 6:15 PM
To: Lobenfeld, Eric J.
Subject: RE: THL v. 7-Eleven - Reexamination

Eric:

Yes.

Gerry

Gerard P. Norton, Esq.
Fox Rothschild LLP
Direct: (609) 844-3020
Fax: (609) 896-1469

From: Lobenfeld, Eric J. [mailto:EJLobenfeld@HHLAW.com]
Sent: Thursday, January 11, 2007 4:44 PM
To: Norton, Gerard P.
Subject: RE: THL v. 7-Eleven - Reexamination

Gerry - thanks for the proposal, which I understand to be, that THL will consent to a stay pending the results of the reexamination, if defendants/NCR agree to file no further requests for reexamination of the patent-in-suit until the litigation is concluded. Yes?

Thx

ERIC J. LOBENFELD, PARTNER
HOGAN & HARTSON LLP
875 Third Avenue, New York, NY 10022
direct +1.212.918.8202 | tel +1.212.918.3000 | fax +1.212.918.3100
ejlobenfeld@hhlaw.com | <http://www.hhlaw.com>

From: Norton, Gerard P. [mailto:GNorton@foxrothschild.com]

1/25/2007

Sent: Thursday, January 11, 2007 11:54 AM
To: Lobenfeld, Eric J.
Cc: Horwitz, Richard L.; Moore, David E.; Williams, Gregory
Subject: RE: THL v. 7-Eleven - Reexamination

Eric:

I have discussed your request with my client. Although we are inclined to give you our consent we would like to discuss it with you first. Please give me a call at your convenience to discuss this matter. Thanks.

Gerry

Gerard P. Norton, Esq.
Fox Rothschild LLP
Direct: (609) 844-3020
Fax: (609) 896-1469

From: Lobenfeld, Eric J. [mailto:EJLobenfeld@HHLAW.com]
Sent: Wednesday, January 10, 2007 8:14 AM
To: Norton, Gerard P.; Williams, Gregory
Cc: Horwitz, Richard L.; Moore, David E.; Lobenfeld, Eric J.
Subject: THL v. 7-Eleven - Reexamination

Gerry - When we first spoke about this case, I told you that NCR had filed an ex parte petition for reexamination of certain claims of the patent-in-suit. I told you then that if review were granted, defendants would seek to stay the case pending the outcome of the reexamination. As you will see from the attached (and as you may already have learned from the folks at Lerner David), the PTO has determined that the prior art cited by NCR in its petition, none of which was of record during prosecution of the patent, does raise a substantial new question of patentability. We therefore intend to move to stay, and seek your consent to that motion pursuant to Local Rule 7.1.1. We intend to make the motion promptly, so please advise at your earliest convenience. Thanks.

ERIC J. LOBENFELD, PARTNER
HOGAN & HARTSON LLP
875 Third Avenue, New York, NY 10022
direct +1.212.918.8202 | tel +1.212.918.3000 | fax +1.212.918.3100
ejlobenfeld@hhlaw.com | <http://www.hhlaw.com>

EXHIBIT 5

Re: THL v. 7-Eleven - Reexamination

Page 1 of 5

Lobenfeld, Eric J.

From: Lobenfeld, Eric J.
Sent: Friday, January 12, 2007 4:15 PM
To: 'Norton, Gerard P.'
Cc: Lobenfeld, Eric J.
Subject: RE: THL v. 7-Eleven - Reexamination

Gerry - I am still waiting to hear back from all of my constituencies, some of whom are away on holiday, on the conditions THL is seeking for the stay. I expect to get back to you by Tuesday or Wednesday (we are all closed on Monday). In the meantime, I certainly agree that you don't have to serve any responses to our discovery. Thx.

Have a good weekend.

ERIC J. LOBENFELD, PARTNER
HOGAN & HARTSON LLP
875 Third Avenue, New York, NY 10022
direct +1.212.918.8202 | tel +1.212.918.3000 | fax +1.212.918.3100
ejlobenfeld@hhlaw.com | <http://www.hhlaw.com>

From: Norton, Gerard P. [<mailto:GNorton@foxrothschild.com>]
Sent: Friday, January 12, 2007 1:11 PM
To: Lobenfeld, Eric J.
Subject: RE: THL v. 7-Eleven - Reexamination

Eric:

Since the parties have agreed to stay the proceeding pending a decision from the U. S. Patent and Trademark Office on Reexamination No. 90/008,323, naturally we will not be responding to your discovery requests. Have a good day.

Regards.

Gerry

Gerard P. Norton, Esq.
Fox Rothschild LLP
Direct: (609) 844-3020
Fax: (609) 896-1469

1/25/2007

Re: THL v. 7-Eleven - Reexamination

Page 2 of 5

From: Lobenfeld, Eric J. [mailto:EJLobenfeld@HHLAW.com]
Sent: Thursday, January 11, 2007 6:37 PM
To: Norton, Gerard P.
Subject: Re: THL v. 7-Eleven - Reexamination

Thx

----- Original Message -----

From: Norton, Gerard P. <GNorton@foxrothschild.com>
To: Lobenfeld, Eric J.
Sent: Thu Jan 11 18:14:41 2007
Subject: RE: THL v. 7-Eleven - Reexamination

Eric:

Yes.

Gerry

Gerard P. Norton, Esq.
Fox Rothschild LLP
Direct: (609) 844-3020
Fax: (609) 896-1469

From: Lobenfeld, Eric J. [mailto:EJLobenfeld@HHLAW.com]
Sent: Thursday, January 11, 2007 4:44 PM
To: Norton, Gerard P.
Subject: RE: THL v. 7-Eleven - Reexamination

Gerry - thanks for the proposal, which I understand to be, that THL will consent to a stay pending the results of the reexamination, if defendants/NCR agree to file no further requests for reexamination of the patent-in-suit until the litigation is concluded. Yes?

Thx

Eric J. Lobenfeld, Partner
HOGAN & HARTSON LLP
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ejlobenfeld@hhlaw.com <mailto:ejlobenfeld@hhlaw.com> | <http://www.hhlaw.com> <<http://www.hhlaw.com/>>

1/25/2007

Re: THL v. 7-Eleven - Reexamination

Page 3 of 5

From: Norton, Gerard P. [<mailto:GNorton@foxrothschild.com>]
Sent: Thursday, January 11, 2007 11:54 AM
To: Lobenfled, Eric J.
Cc: Horwitz, Richard L.; Moore, David E.; Williams, Gregory
Subject: RE: THL v. 7-Eleven - Reexamination

Eric:

I have discussed your request with my client. Although we are inclined to give you our consent we would like to discuss it with you first. Please give me a call at your convenience to discuss this matter. Thanks.

Gerry

Gerard P. Norton, Esq.
Fox Rothschild LLP
Direct: (609) 844-3020
Fax: (609) 896-1469

From: Lobenfled, Eric J. [<mailto:EJLobenfled@HHLAW.com>]
Sent: Wednesday, January 10, 2007 8:14 AM
To: Norton, Gerard P.; Williams, Gregory
Cc: Horwitz, Richard L.; Moore, David E.; Lobenfled, Eric J.
Subject: THL v. 7-Eleven - Reexamination

Gerry - When we first spoke about this case, I told you that NCR had filed an ex parte petition for reexamination of certain claims of the patent-in-suit. I told you then that if review were granted, defendants would seek to stay the case pending the outcome of the reexamination. As you will see from the attached (and as you may already have learned from the folks at Lerner David), the PTO has determined that the prior art cited by NCR in its petition, none of which was of record during prosecution of the patent, does raise a substantial new question of patentability. We therefore intend to move to stay, and seek your consent to that motion pursuant to Local Rule 7.1.1. We intend to make the motion promptly, so please advise at your earliest convenience. Thanks.

Eric J. Lobenfled, Partner
HOGAN & HARTSON LLP
875 Third Avenue, New York, NY 10022
direct +1.212.918.8202 | tel +1.212.918.3000 | fax +1.212.918.3100
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This electronic message transmission contains information from this law firm which may be confidential or

1/25/2007

EXHIBIT 6

Re: THL v. 7-Eleven - Reexamination

Page 1 of 5

Lobenfeld, Eric J.

From: Norton, Gerard P. [GNorton@foxrothschild.com]
Sent: Wednesday, January 24, 2007 8:33 PM
To: Lobenfeld, Eric J.
Subject: RE: THL v. 7-Eleven - Reexamination

Eric:

Thank you for working with me in trying to reach an acceptable resolution of the parties various proposals concerning the issue of consent to 7-Eleven's proposed motion to stay the case. Unfortunately, your latest proposal that THL agree to dismiss the complaint without prejudice is unacceptable to my client. Thus, THL does not consent at this time to stay the case pending the U.S. Patent and Trademark Office decision on reexamination of the patent-in-suit.

Regards,

Gerry

From: Lobenfeld, Eric J. [mailto:EJLobenfeld@HHLAW.com]
Sent: Friday, January 12, 2007 1:15 PM
To: Norton, Gerard P.
Cc: Lobenfeld, Eric J.
Subject: RE: THL v. 7-Eleven - Reexamination

Gerry - I am still waiting to hear back from all of my constituencies, some of whom are away on holiday, on the conditions THL is seeking for the stay. I expect to get back to you by Tuesday or Wednesday (we are all closed on Monday). In the meantime, I certainly agree that you don't have to serve any responses to our discovery. Thx.

Have a good weekend.

ERIC J. LOBENFELD, PARTNER
HOGAN & HARTSON LLP
875 Third Avenue, New York, NY 10022
direct +1.212.918.8202 | tel +1.212.918.3000 | fax +1.212.918.3100
ejlobenfeld@hhlaw.com | <http://www.hhlaw.com>

From: Norton, Gerard P. [mailto:GNorton@foxrothschild.com]
Sent: Friday, January 12, 2007 1:11 PM
To: Lobenfeld, Eric J.

1/25/2007

EXHIBIT 7



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
 United States Patent and Trademark Office
 P.O. Box 1450
 Alexandria, VA 22313-1450
 www.uspto.gov

Ex Parte Reexamination Filing Data - September 30, 2006

1. Total requests filed since start of ex parte reexam on 07/01/818252³
 - a. By patent owner 3348 41%
 - b. By other member of public 4739 57%
 - c. By order of Commissioner 165 2%

2. Number of filings by discipline
 - a. Chemical Operation 2538 31%
 - b. Electrical Operation 2683 32%
 - c. Mechanical Operation 3031 37%

3. Annual Ex Parte Reexam Filings

Fiscal Yr.	No.	Fiscal Yr.	No.	Fiscal Yr.	No.	Fiscal Yr.	No.
1981	78 (3 mos.)	1989	243	1997	376	2005	524
1982	187	1990	297	1998	350	2006	511
1983	186	1991	307	1999	385		
1984	189	1992	392	2000	318		
1985	230	1993	359	2001	296		
1986	232	1994	379	2002	272		
1987	240	1995	392	2003	392		
1988	268	1996	418	2004	441		

4. Number known to be in litigation.....1934 23%

5. Determinations on requests7963
 - a. No. granted.....7268.....91%
 - (1) By examiner 7157
 - (2) By Director (on petition) 111
 - b. No. denied695.....9%

³ Of the requests received in FY 2006, 35 requests have not yet been accorded a filing date, and preprocessing of one request was terminated, for failure to comply with the requirements of 37 CFR 1.510. See Clarification of Filing Date Requirements for *Ex Parte* and *Inter Partes* Reexamination Proceedings, Final Rule, 71 Fed. Reg. 44219 (August 4, 2006).

(1)	By examiner			660	
(2)	Order vacated			35	
6.	Total examiner denials (includes denials reversed by Director)				771
a.	Patent owner requester			433	56%
b.	Third party requester			338	44%
7.	Overall reexamination pendency (Filing date to certificate issue date)				
a.	Average pendency			22.9 (mos.)	
b.	Median pendency			17.8 (mos.)	
8.	Reexam certificate claim analysis:	Owner	3rd Party	Comm'r	
	<u>Requester</u>	<u>Requester</u>	<u>Initiated</u>	<u>Overall</u>	
a.	All claims confirmed	23%	29%	13%	26%
b.	All claims cancelled	7%	12%	20%	10%
c.	Claims changes	70%	59%	67%	64%
9.	Total ex parte reexamination certificates issued (1981 - present).....				5537
a.	Certificates with all claims confirmed			1448	26%
b.	Certificates with all claims canceled			565	10%
c.	Certificates with claims changes			3524	64%
10.	Reexam claim analysis - requester is patent owner or 3rd party; or Comm'r initiated.				
a.	Certificates _ PATENT OWNER REQUESTER.....				2403
(1)	All claims confirmed			560	23%
(2)	All claims canceled			176	7%
(3)	Claim changes			1667	70%
b.	Certificates _ 3rd PARTY REQUESTER.....				2992
(1)	All claims confirmed			870	29%
(2)	All claims canceled			360	12%
(3)	Claim changes			1762	59%
c.	Certificates _ COMM'R INITIATED REEXAM.....				142
(1)	All claims confirmed			18	13%
(2)	All claims canceled			29	20%
(3)	Claim changes			95	67%